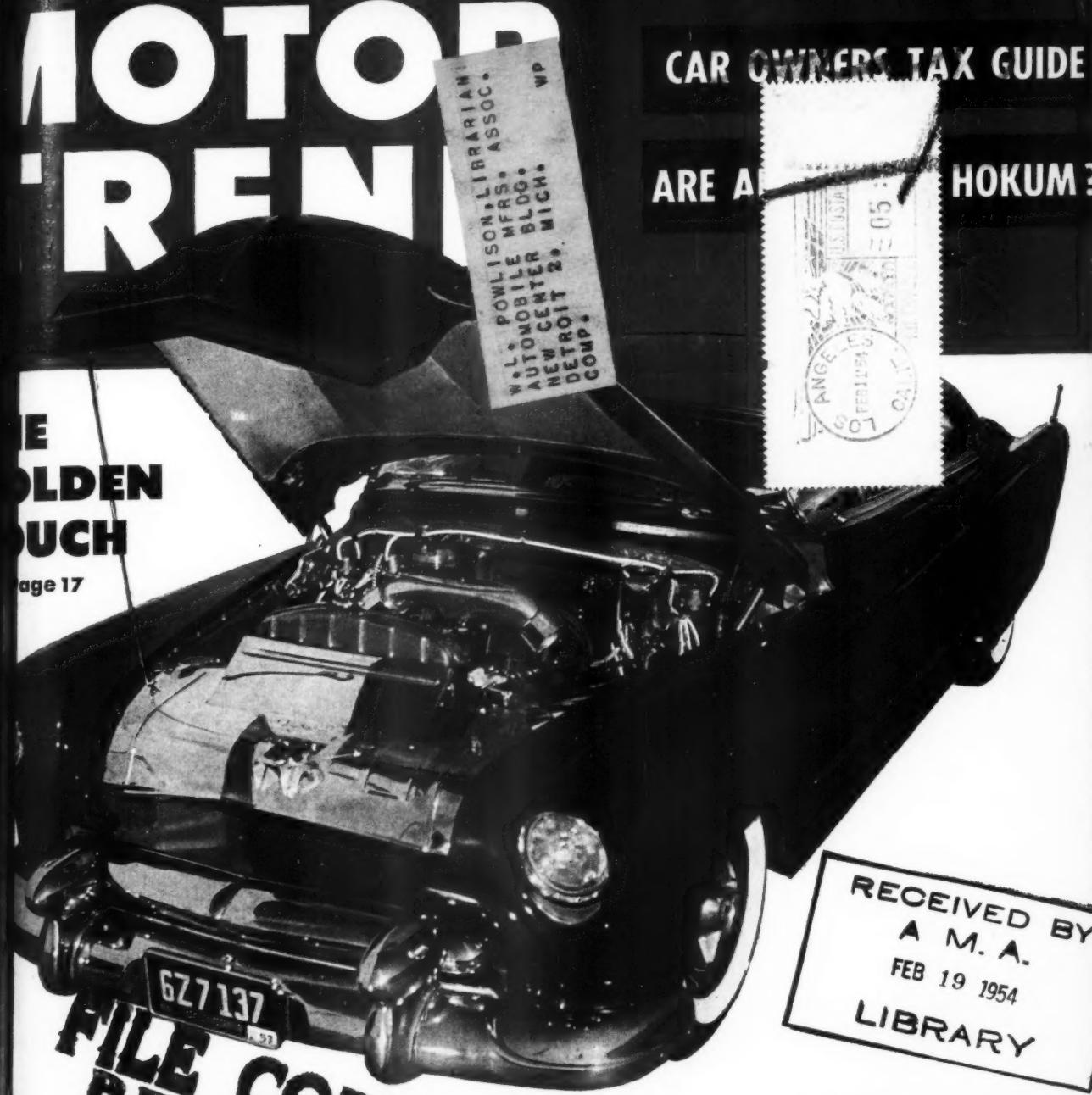


MOTOR TREND

THE
GOLDEN
TOUCH

Page 17



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SIZZLING
FIZZLE?

See Page 42

CAR OWNERS TAX GUIDE

ARE A

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Here's the amazing "Battery with 753 Lives" 25,080,000 people saw advertised in...

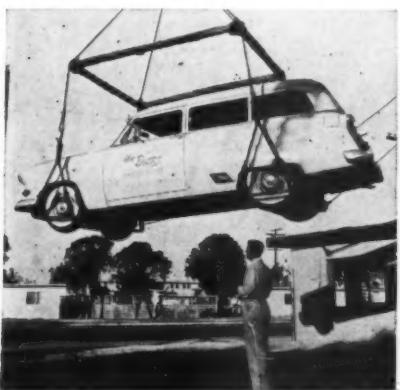
LOOK



IN PANAMERICAN ROAD RACE, "toughest 2000 miles in the world," thirty leading contenders selected Life-time for their cars, had no trouble, although other cars dropped out due to battery failure. Small stock car winner C. D. Evans said: "most rugged battery I've ever seen."



SCIENCE AND CHEESECAKE were combined in another test, where Life-time battery was run down completely, then lowered into tank of water and frozen solid. Six weeks later, still in cake of ice, battery started heavy truck motor immediately.



OVER 50,000 FOOT-POUNDS OF POWER—enough to lift this car fifteen feet straight up—is developed by Life-time battery. Tremendous power reserve accounts for battery's ability to start at any temperature—from 35 below to 160 in the shade.

THE BATTERY THAT WOULDN'T GIVE UP

Run down, baked, frozen, it keeps bouncing back to life.
Six-year bonded* guarantee rocks billion dollar industry

Heralded as the "battery with 753 lives," a new American battery has defied the determined efforts of automotive editors and researchers to make it give up. Run down, charged, run down and charged from 604 to 1142 times in S.A.E. tests, it keeps coming back for more. Called the Life-time battery, it is breaking sales records from Alaska to Venezuela. The Life-time has proved a bonanza for the more than 10,000 U.S. and foreign dealers and distributors appointed during the last year. Besides car and truck batteries, which sell for \$29.95 in six-volt, \$34.95 in 12-volt sizes, sales of marine and industrial batteries are booming also. Inventor Frank Williams, who developed the Life-time battery 11 years ago, still uses one of the original batteries in his car, predicts several years additional life. With four plants now operating, 300-500 additional requests for dealerships and distributorships come weekly to the main plant, the Continental Manufacturing Corporation, Motor Avenue, Culver City, Calif.

*Six-year guarantee is backed by multi million-dollar bonding company.



LIFE-TIME BATTERY BEATS (by narrow 24% margin) famous German battery—rumored to be "super battery"—in test. Leading automotive magazine editors compared Life-time in torture tests with other American batteries—rated Life-time "outstanding.. has unprecedented life expectancy."

10,000 authorized dealers now have the Life-time battery... but 10,000 aren't enough!

AN UNUSUAL OPPORTUNITY exists right now for established businessmen.

Every day, letters and wires asking for the name of the nearest Life-time battery dealer come in as a result of full-page advertising in Look, True, Esquire and about 30 other magazines, besides sponsorship of the Pan American Road Race over the CBS international network, plus television and newspapers.

Naturally, we refer these sales to our dealers (you'll notice there's no coupon in this ad for mail orders; we don't compete with our own dealers). Frankly, however, our present dealer organization isn't big enough to handle all the business; therefore franchises are still available in some areas.

Bonded Guarantee Protects Public, Dealers

We guarantee the Life-time battery for six years. This guarantee is backed not only by the substantial resources of our own company, but it is bonded by a multi-million dollar insurance company which, after thorough investigation, concluded six years was well within the life expectancy of the Life-time battery.

This bonded guarantee is double protection not only to the public but to the dealers whose customer goodwill depends on the backing behind the guarantee.

Decisions to Be Made At Once

Dealer and distributor franchises for the Life-time battery are probably the most valuable in the industry, yet they are not sold to anyone; they are awarded on the basis of the amount of business in each territory. If you would like to know more about the opportunities for you as a Life-time battery dealer or distributor, write us at once; we'll let you know promptly if there is an opening in your area.

CONTINENTAL MANUFACTURING CORP.

Dept. MT-3, Washington Blvd.
at Motor Ave., Culver City, Calif.

© 1954

NOT SOLD BY MAIL!

Available only through reputable dealers. Write for name of dealer nearest you.

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Mallory

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REGISTERED U. S. PATENT OFFICE



Does Your Engine Suffer From
SPARK HANDICAP?

You Will Never Know

UNTIL YOU INSTALL MALLORY IGNITION

MALLORY DUAL-POINT DISTRIBUTORS
(LIST PRICE \$28.00 TO \$42.10)

MALLORY MAGSPARK TRANSFORMER
(LIST PRICE \$22.00)

MALLORY "BEST" COIL
(LIST PRICE \$13.10)

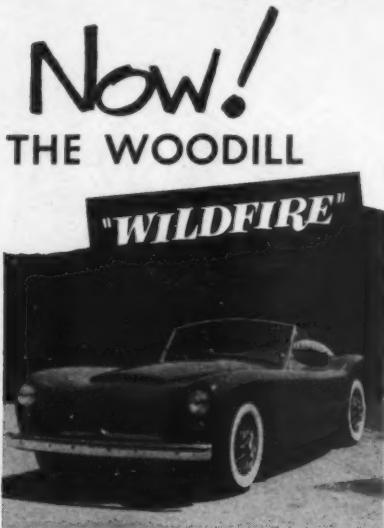
MALLORY BALLBEARING ADVANCE PLATES
(LIST PRICE \$2.40 TO \$11.90)

MANY OWNERS DO NOT THINK THEY HAVE IGNITION TROUBLE

Due to the smoothness of operation brought about by more powerful engines and improved transmissions, it is hard for the owner to detect erratic ignition. He may drive miles and miles complaining about gas mileage and lack of power, whereas if he would put his engine on a chassis dynamometer, he would find in many cases that he had ignition trouble and did not know it.

A MALLORY IGNITION SYSTEM IS AVAILABLE FOR YOUR CAR OR TRUCK... ASK YOUR DEALER...
OR WRITE TODAY FOR COMPLETE INFORMATION AND ENGINEERING DATA ON THE MALLORY SYSTEMS.

MALLORY ELECTRIC CORPORATION • 12416 Cloverdale Ave. • DETROIT 4, MICH.



A TRULY AMERICAN SPORTS CAR!

Assemble your own Sports Car for less than half the cost of a foreign sports job.

A complete kit. We furnish the materials and complete detailed instructions — you furnish the labor.

READ the fascinating article, "14 Hour Sports Car" on page 38 of this magazine. You'll discover an entirely new concept of building a Sports Car based on the Woodill Motors "Wildfire."

WATCH for the "Wildfire" . . . used in the current motion pictures, "Knock on Wood" with Danny Kaye—also "Johnnie Dark" starring Tony Curtis and Piper Laurie.

WRITE today for further information and descriptive literature on this exciting new car and for the name of your nearest dealer.

Dealer inquiries cordially invited.

THE WOODILL

"WILDFIRE"

WOODILL MOTOR COMPANY
8640 East Firestone Boulevard
Downey, California
for local inquiries, phone:
LOGan 8-7246 or TOPaz 2-1137

Glove Compartment

THE NASH-HUDSON merger may not be news, but we came across some interesting comments which we'd like to share. Says the *Wall Street Journal* (Jan. 21): "Dealer organizations applaud the merger with some exceptions. A San Francisco Hudson merchant said, 'Our car has always had good engineering. Now, maybe we will get the better styling which we badly need.' The marriage of the two auto independents may lead to cost-saving unions of hard-pressed Hudson and Nash agencies in smaller communities, say some dealers.

"Many dealers predict two or more big parts makers will be brought into the new combine later. They also believe Packard will join up. Such a lineup, they say, would warm up competition for the Big Three."

Packard is leaving itself wide open to merger possibilities. J. J. Nance, president, has been quoted as saying that there are no merger talks going on at present that involve Packard, but that they'd welcome one if it proved good for Packard.

TIP TO AUTO SALESMEN: Here are some facts worth remembering when someone confronts you with the now-familiar phrase, "We've got a buyer's market now. What can we do?" There are still 12 million pre-war cars on the highways; 17 million families do not own automobiles; 37 per cent of the nation's farms are without passenger cars and 66 out of 100 do not have trucks; of the nation's car-owning families, only about 10 per cent own more than one.

SOME HIGHLY INTERESTING things happened when a Chrysler recently went

2157 miles at an average speed of 89.89 mph for 24 hours at Indianapolis Speedway. At times, speeds of 120 mph were hit, but to keep car speeds at the most rewarding pace, Chrysler Division Chief Engineer and his assistant handled timing job and lap count. When the car had to come in for tire changes, a fork lift raised the stock 235-hp New Yorker so that all tires could be changed simultaneously. To prevent tire pressure changes due to atmospheric conditions and surface friction, the big reserve stock of tires were filled with nitrogen. Regular grade gasoline was used, and no parts required replacement throughout the entire run.

INTEREST IN CLASSICS continues to grow. Bob Gottlieb's recent articles on Packards received tremendous applause from Packard lovers all over the country. One of many letters came from Owen Aivazian, president of the Sacramento chapter of Packard Automobile Classics, an organization dedicated to restoration and preservation of classic Packards produced between World Wars I and II. Aivazian sent a copy of his chapter's publication, *Classic Capers*, a chatty paper typical of enthusiasts' publications all over the country. If you're interested in fine cars and would like to go in for a new kind of hobby, get in touch with the classic car organization in your area. It's a fine way to make new friends, too.

THE AUTOMOBILE INDUSTRY, in its own way, is helping to cement American relations in other parts of the world. Early in '54 a cavalcade of Jeeps will go abroad as an unofficial "ambassador of good will" to show the hundreds of ways in which a Jeep can help people in Mexico, Central and South America, Canada, Europe, and the Far East to build a better future.

LOOKING for a place to go? There's a list of suggested things to see in "Tips for Trips," page 74. We'd like to expand this list to include all automotive activities in your area. So if you're connected with racing, auto shows, drags, rallies, etc., send in the dates at least three months in advance; we'll include them in this monthly feature.

—The Editors



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Printed in U.S.A. by Pacific Press Inc., Los Angeles, California.

This Month's Cover

Bill Southworth's color shot of Jack Nethercutt's custom '52 Oldsmobile is more than just a photo of one of the country's outstanding customs; it portrays the height of customizing—"The Golden Touch." You'll find the story of this custom creation, with pictures of its fine details, on page 17. Only actress Elizabeth Root could add to the beauty of Ralph Widman's cover shot of Charles Arlington's Auburn. The full Auburn story begins on page 42.

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MARCH 1954

Published Monthly
VOL. 6 • NO. 3

MOTOR TREND



THE CAR OWNERS MAGAZINE

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LOSS and PROFIT

A truck doesn't make any money standing still, be it on the side of the road or in the shop. To make matters worse, while revenue goes down, costs go up.

Truck operators know how important dependable engine operation is to keeping a good customer satisfied and maintaining a profitable operation. And they know too, that Belond EQUA-FLOW Exhaust Systems are specifically engineered to provide greater road horsepower, higher operating speeds, cooler valves, lower engine operating temperatures, better mileage and eliminate cast-iron manifold breakage. They realize that such basic Belond design improvements as CONSTANT-RADIUS exhaust ports, HIGH-CAPACITY collector tubes and overall EQUA-FLOW exhaust-gas travel from both segments of the engine make for top engine performance.

Are you aware of how the Belond EQUA-FLOW Exhaust System can improve the performance of your V8-powered automobile? The features exclusive with Belond's industrial and racing exhaust system products are designed into passenger car equipment as well... features available with no other exhaust system. Get in touch with your nearest Belond dealer soon. He'll show you how "the best single improvement to be made on a V8-powered automobile" means Belond.

Free literature and nearest Dealer's name available upon request.



MANUFACTURER'S OF Belond EQUA-FLOW Exhaust Systems, Belond DUAL MUFFLER SYSTEMS, Belond STEEL-PACKED MUFFLERS, CUSTOM and RACING EXHAUST SYSTEMS, CHROME PLATED TAILPIPE EXTENSIONS

THE ORIGINAL *Belond*
EQUA-FLOW
EXHAUST SYSTEM

Southern California
MUFFLER CO.

11839-49 Washington Blvd., Culver City 2, Calif.

Letters

AMAZING ACCELERATION?

Gentlemen:

Your story "Greenhouse on Wheels" (Jan. MT) was well done but there was one part that amazed me. You say that the '54 Merc gets up to 60 mph in five seconds . . .

B. J. McLaughlin
Union, N. J.

Sorry, but you misinterpreted our statement, "With this new engine you can trim down the acceleration time up to 60 mph by around five seconds." Meaning it's five seconds quicker than the '53 in getting to 60.

—Editor.

REQUEST GRANTED

Gentlemen:

I have been reading MOTOR TREND for almost two years, but I have failed to find an article about the Auburn car. Let's have one dealing with Auburns from 1927 or '28 up to the time they closed down the factory.

Jay Brown
Glendale, Calif.

Well, you didn't have to wait long. Read Bob Gottlieb's complete story on the Auburn beginning on page 43.—Editor.

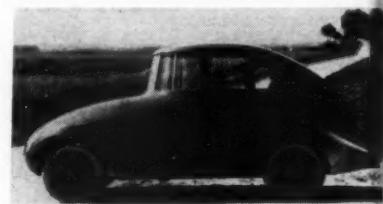
1923 STREAMLINING

Gentlemen:

I'm sending you two photographs of a real streamlined car built by me more than 30 years ago. The chassis is a Ley, and the design of the body was made by P.



Jaray, who was also the customer. Framework of the body was made of wood and walnut trees [cut] as thin as possible. Most of the framework was steam-bent. The body shell was of aluminum and welded together.



Headlamps were built into the body. The windscreens are curved glass with a small ventilation window. Two later editions of this car you showed already in your November 1953 issue, page 44.

Hermann Spohn
Ravensburg, Germany

We knew that Spohn's creations (see Nov. MT) were streamlined beyond comparison with anything this side of the Atlantic, but little did we realize he had such a head start. For a 1923 car his streamlining is nothing less than sensational, don't you agree?—Editor.

"BOMBSHELLS FROM FLINT"

Gentlemen:

I just finished reading "Bombshells from Flint" (Feb. MT). I was disappointed that your usual "Story in Figures" was not included. I noticed that this was absent also on the new '54 Mercury story (Jan. MT). Will these be published in a later issue?

Bob Gries
Rockford, Ill.

We hoped we had made it clear that the Buick and Mercury features were stories to give you facts on these cars at "new car announcement" time. True, we did give you "Driving Impressions," but our complete

MOTOR TREND Subscription Dept.

5959 Hollywood Blvd., Los Angeles 28, Calif.

Please enter my name as a MOTOR TREND subscriber for:

One year-\$3.00 Two years-\$5.00 Above rates for U.S., its possessions, Canada; all other countries:
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Name.....

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City..... Zone..... State.....

I enclose: cash check money order

Convenient delivery

is one of the big reasons for subscribing to MT. Another is the

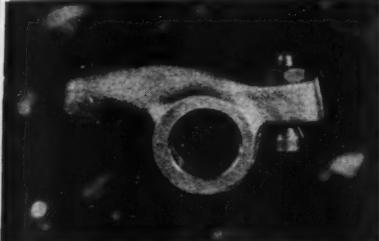
\$1.00 Saving

on a two-year order. You won't miss a copy of the great new issues coming up if you send this coupon today . . .

MAIL MART

© 1954

Welcome to Mail Mart! Each month you'll find here an outstanding selection of speed, power, economy and custom equipment—the newest, most interesting specialties (plus some of the old favorites) from the huge stockrooms of the World's Largest Distributor of High Performance Auto Parts.



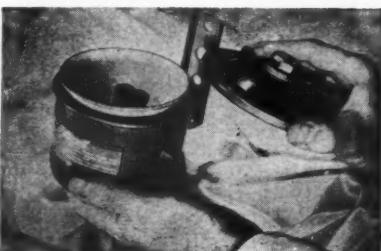
Magnesium Rocker Arms boost horsepower and give up to 600 more r.p.m. Two-thirds lighter than stock rockers, they will not float at high speed, even with stock springs. They end hydraulic lifter troubles, and reduce wear through whole valve train. Two optional types; standard, or high lift, which gives effect of racing cam. Easy to install; furnished with hardened adjusting screws. For all 6's (set of 12), \$32.50; all V-8's (set of 16) \$39.50. Item #1.



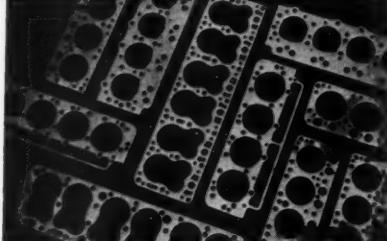
Design experts declare that any car has a lower, smoother, custom look with a pair of handsome "flared" fender skirts. Carefully shaped to blend with the fender's natural contour, they add a touch of modern elegance to your car. Made of extra-heavy gauge steel; do not confuse with flimsy type. Have concealed full-bearing rubber rub strip and sturdy locking-lever-handle (easily detachable). Furnished in primer, for most late model cars, only \$8.95 pr. Item #4.



Guaranteed for 6 years! Here is the fabulous Lifetime Battery that outperformed others 221% in recent impartial tests. Specified by over 30 leading drivers in grueling 1953 Mexican Road Race. Features remarkable initial output—amazing recuperative power (springs back to life instantly after complete discharge, over and over). Will save you up to \$107 on battery purchases during the guarantee period. 6-volt model \$29.95; 12-volt, \$34.95. Item #2.



Use oil up to 10,000 miles safely! Lifetime Permanent Filter saves money . . . eliminates costly replacement packs. Porous bronze cone lasts forever. 250% more efficient than usual rag or paper filled "cans"; won't soak up detergents; unaffected by heat or moisture. Used by Army, Navy & big fleet owners. Guaranteed 10 years! Conversion kit for your car's filter (except full flow type) \$6.95 ppd. Complete Unit, with housing, \$12.95 ppd. Item #5.



Get high compression from any engine this low-cost way! No milling, filling, special heads or pistons. Simply replacing stock head gasket with these special thin gaskets equals milling head about .060. Boosts stock Ford compression to 8:1, and gives similar or higher increase on others. Result is extra power and better gas mileage. Guaranteed blowout proof. Available for any make or model—U.S. or foreign. New low price, \$4.95 each; \$4.95 per pair for V-8's. Item #3.



Built like a power house transformer! From England comes the Runbaken OilCoil, which engineers acclaim the hottest coil in the world! 30,000 volts output compared to ordinary coils' 10-12,000 volts. Gives quicker starts, more pulling power and acceleration, better mileage. Features unbreakable transparent case with visible windings immersed in clear oil for cooling and to exclude moisture. Fits any car; full two-year guarantee, only \$19.95 Ppd. Item #6.



5805 E. BEVERLY BLVD., DEPT. 130 • LOS ANGELES 22, CALIFORNIA

MAIL MART ORDER BLANK

Newhouse Automotive Industries Dept. 130
5805 E. Beverly Blvd., Los Angeles 22, California

Gentlemen: Please ship me right away the items checked in the boxes at the right. My car is a

Year _____ Make _____ Model _____ No. Cyl. _____ \$ _____ full price
Name _____
Address _____
City _____ Zone _____ State _____ \$ _____ 20%
deposit enclosed, send COD.



Tired of spark plugs that skip and miss after first few weeks? Triple Fire Airplane Type plugs are guaranteed 20,000 Miles! New design features three heat resistant, nickel-alloy electrodes instead of usual single steel point. Heat varies resistance, causing points to fire in rotation; triples performance and reliability—triples plug life! Save up to \$13.20 compared to three sets of ordinary plugs. In perfectly matched sets, just 89c for each plug Ppd. Item #7.

The DISCOUNT HOUSE



Genuine Continental Kit for '49-54 Chevrolet. (reg. price \$69.50) SPECIAL \$43.45



Genuine Continental Kit for '49-54 Ford. (reg. price \$69.50) SPECIAL \$43.45



Oldsmobile '53-54, "88"-98"



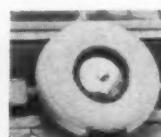
Buick '54 Super & Roadmaster

All wheel kits and tire covers are constructed of heavy gauge steel and come complete with mounting bracket, bumper extension, stone deflector, misc. hardware, trim welt and mounting instructions.

MAKE	REGULAR PRICE	DISCOUNT PRICE
'54-'53 Plymouth	145.00	89.75
'54-'53 Dodge	145.00	89.75
'54-'53 Pontiac	145.00	89.75
'54 Mercury	150.00	89.75
'54 Buick-Rd. Mst.	179.50	99.75
'54 Buick-Super	179.50	99.75
'54-'53 Oldsmobile "98," "88"	175.00	99.75
'54-'53 Lincoln	175.00	99.75

Kits are complete in prime paint. Chrome Tire Cover Rim Optional, additional \$15.00. Specify model car and tire size..

This functional metal tire cover is designed to fit all 15 and 16 inch wheels. Specify tire sizes. Constructed of quality heavy gauge steel. (reg. price \$14.95.) SPECIAL \$9.95



Add style to your MG with this new metal tire cover. Designed to completely cover and protect the spare tire. (reg. price \$14.95.) SPECIAL \$9.95



25% deposit on all orders. Price FOB, Los Angeles. Add 3% sales tax if you live in Calif.

C-H AUTO SUPPLY CO.

Dept. 1441, 5864 Hollywood Blvd.
Hollywood 28, Calif.

road test reports with our usual "Story in Figures" will be in later issues.—Editor.

NO CONFIDENCE?

Gentlemen:

I don't think you'll inspire confidence in your advertisements if you peddle an old nostrum like AD-X2.

Ivan Shestuke
Ansma, Conn.

The complete story on the controversial battery additive, AD-X2, will be found on page 30.—Editor.

ACCIDENT-IMMINENT PARIS

Gentlemen:

I respectfully suggest that Monsieur G. Frederic Riegel, Jr., equip himself with a new ear trumpet and a Seeing Eye dog prior to his next run through Paris. His observations as reprinted in your December "Glove Compartment" from the *New York Times* are sheer fantasy. Automobile insurance rates are twice as high as in the U.S., which indicates that the accident rate is proportionately high. A Paris paper recently ran an article stating that one out of 11 French motorists kills either himself or another person in a vehicle accident. Is that our goal?

A. F. Hinger
Wiesbaden, Germany

Reader Hinger thoughtfully enclosed an amusing piece on "How to Drive an Auto in Paris," which is attributed to a Major Smith. Although it is too long for publication here, we'll be glad to send interested readers mimeographed copies of the article.—Editor.

TOO RISKY?

Gentlemen:

In your October issue there was an article "It Could Happen to You!" I am aware of the truth of that statement . . . Upon my return after a year and a half in Korea with the Marines, I tried to get insurance (on my car). I was perfectly willing to pay extra since I was only 22. I was refused! I can vote! I can defend my country! But I'm too risky to insure! How about that? How many others are like me?

As a member of the Marine Corps Motor Transportation, I would like to mention in passing one of our anti-accident or safety posters. It states: "ACCIDENTS DO NOT HAPPEN—THEY ARE CAUSED!" It is, unfortunately, very true. It's up to each driver to foresee and remove the "causes." This would greatly reduce accidents and maybe we, who are under 25, could get insurance.

No matter how good a driver you are, you can't drive the other guy's car too!

Sgt. K. G. Waltman, Jr., USMC
Miami, Fla.

MORE ON WOMEN DRIVERS

Gentlemen:

In the December issue ("Glove Compartment") you told of two women who toured the country from New York to San Francisco taking a census of traffic safety violations to see who got more tickets men or women? (The result: men.)

There are many reasons for this. First, there are more men drivers than women. Second, women are never in a hurry (always

talking). Third, women are always driving slow.

T. J. Stockfisch (age 11)
Hartford, Wis.

MOVE THAT DAM!

Gentlemen:

A few months ago (January) in your magazine we made an embarrassing geographical mistake. An advertisement of ours, headed "10,000 Mile Tour Astonishes Lowell Thomas," and featuring the many industrial accomplishments of Kaiser, inadvertently placed Hoover (Boulder) Dam in Colorado—300 miles from where it actually stands on the Colorado River between Nevada and Arizona.

After all the Kaiser concrete poured into that dam, we should have known better! Kaiser has built more great dams than any other builder in history, but we're afraid that moving Hoover Dam to Colorado is just too big a job.

Fred W. Adams
Advertising Manager
Willys Motors, Inc.

MODEL A CLUB

Gentlemen:

Last March you very kindly published a letter that I was starting a Model A Ford Club. Because of that letter, we now have members in 38 states!

Not too long ago a New England Regional Meet was held in West Hartford, Conn., bringing members and cars from Portland,



Me., to Baltimore, Md., together. Enclosed is a photo of the group as they stopped for a breather on Avon Mountain.

William E. Hall, Founder
Model A Restorers Club
71 Lexington Rd.
W. Hartford, Conn.

SURRENDER AND LIVE

Gentlemen:

So, here I was heading down a one-way street. Pedestrians and drivers were all giving with the you-can't-do-that look, using horns, voices, and gestures. To alleviate the ill feeling that is bound to crop up in such a situation, I've come up with a little gimmick which not only turns embarrassing situations into humor but also has discouraged those drivers from challenging me for a "traffic light drag."

I have a little 18-inch mast that comes in handy to offset a sagging tonneau cover. I stapled a white handkerchief to one end of this tent pole and have found that when the occasion arises, it shows that I am ready to surrender! It also comes in handy to silence loud horns in left ears. It's a sign of forgiveness for the failings of others. It always brings a smile in touchy situations—and you well know that irritation cannot endure smiles.

Charlie Roberts Swink
WGAR Broadcasting Co.
Cleveland, Ohio

Motor Trend



Maybe I Talk Too Much!

So I'm Not Going to Say Any More About the National Car Owners' Club I Started.

by "Gilk" Gilkerson

You've probably heard me shoot off my mouth in a lot of magazines about the National Club, a kind of car owners' cooperative I started a while back. So I'm not going to take up any more of your time telling you about the Club and what we do for the members. After all, the entire setup is in the Club newspaper anyway.

This Club newspaper, by the way, isn't in much danger of being confused with the London Times, for three reasons. First, it's probably about the lousiest writing that ever got into print, and I write it myself (the Club newspaper, not the London Times), so I've got a right to say so. Second, if you don't like the way I write the Club newspaper, it doesn't cost you anything. Try that on the London Times and see how far you get! Third, it doesn't get on your doorstep every morning; in fact we're lucky to get it out quarterly.

MEMBERS ENJOY FREE TRIAL PRIVILEGES

The main way our Club News beats the pants off the London Times is that our paper gives you the news about the car owners' Club I promised not to talk about, plus info about a lot of things for your car you can have sent to you just by writing in and saying you'd like to try them. You don't send any money, you don't pay any deposit, you don't pay the postman or anybody else anything when the stuff arrives.

Members have the privilege of buying anything after they've tried it. But the Club has worked out a plan for members to keep the stuff without sending in money. This is explained in the Club newspaper.

IF YOU'RE ALREADY A MEMBER . . .

You'll be getting another copy of the Club News with a list of some of the products that have decided to go along with the Club's idea that most people are honest. On this page, you'll find a few of them; if you'd like to try any or all of them, just check them in the coupon and send in your name and card number.

IF YOU'RE NOT A MEMBER . . .

Fill out the coupon, check off what you want (incidentally, you don't have to send for anything on Free Trial now or ever to get in the Club or stay in) and send in a buck to help cover cost of printing the Club Newspaper and other expenses. We'll send you our New Member package, including \$2 worth of gas coupons and lots of other free stuff. After you get it, browse through it and decide whether or not you want to stay in the Club. If so, welcome; you're paid up for life—no dues, no fees, no nothing. If not, fire the package back at us and we'll return your buck right away with no hard feelings.



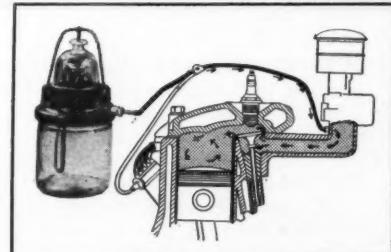
MILE-O-METER

Thousands of folks depend on the Mile-O-Meter to help them save gas. This handy gadget simply hooks up to the intake manifold and tells you when your engine is getting the most out of each gallon. Besides that it gives readings that allow you to diagnose your car's condition at any time, same as a professional tune-up expert does. It warns when engine adjustments are necessary to avoid breakdowns. The miles-per-gallon scale helps you improve your mileage, indicates when you're wasting gas. Simple to install without drilling any holes. Don't send any money: just check the coupon.



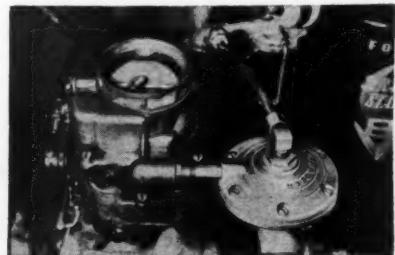
10,000 MILES WITHOUT AN OIL CHANGE

This Lifetime Oil Filter is a cone made up of millions of tiny bronze balls which let the oil through but keep out impurities as small as thirty-nine millionths of an inch. This keeps your oil clean much, much longer and you don't mess around replacing cloth or paper filters. The manufacturer guarantees this bronze filter for ten years. All you have to do to get one is check the coupon and it's yours for a free ten day trial. You get your choice of the Complete Unit, which replaces your present oil filter, or the Conversion Kit, which replaces your element only.



AUTOMATIC MECHANIC
TRY THE POOR MAN'S MECHANIC FREE

This automatic Tune-Up injector is an attachment that automatically flushes out your car engine every 100 miles before carbon becomes a problem. Tucked under the hood, tune-up fluid keeps building up in the Injector's small reservoir on top. When full, it flushes out your engine (you don't even know it's going on), and starts filling up again for the next time. If you'd like to try it free (the manufacturer throws in a \$1.00 pint of tune-up fluid free; you keep this no matter what), just check the coupon.



GANEMASTER FUEL PRESSURE REGULATOR

Here is an ingenious gadget that may give you up to 25% more gas mileage. The Ganemaster Regulator is a highly sensitive diaphragm device that fits between the fuel pump and the carburetor. It smooths out the "spurts" from the pump, reducing power loss, gas waste, flooding and stalling.

Precision built with copper fittings, it's easily installed and pays for itself in fuel saved. Check the coupon for free trial.

NEW MEMBERS ENJOY FREE TRIAL PRIVILEGES

If you haven't joined yet, hop aboard. You'll get offers of many things you may want to try out on a free trial plus the membership card, gas coupons, credit memos and Club Newspaper. Fire the stuff back within ten days if you don't want to stick for life and we'll refund your money with no kicks.

Cane Economy Club, Dept. CM-3
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Los Angeles 44, Calif.

The Great National GANE ECONOMY CLUB

Dept. CM-3, 6610 S. Vermont, Los Angeles 44, Calif.

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 Automatic Mechanic

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Fuel Pressure Regulator
 Lifetime Oil Filter kit
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Name.....

Make of car..... Model..... Year.....

Address.....

City..... Zone..... State.....

Spotlight on Detroit

FYI...FACTS ON KAISER-DARRIN 16

By Don Mac Donald

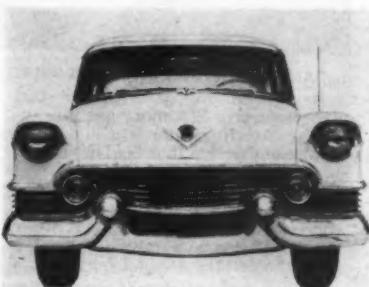
DETROIT, MICHIGAN—It certainly can be said that executives of General Motors are up on their toes lately. Topping their effort for '54 are . . .

THE ALL-NEW CADILLACS, featuring a grille and several other styling features straight from last year's LeMans show car. This, as you may remember, seemed to lean forward even while standing still, like a bustle-backed lady of forbidding proportions. Yet all of its meticulous attention to detail has been carried over to the new body shells and trim. These cars may have the outlines of a landing barge, but it's the one the admiral rides in. Despite the drastic changes and wrap-around windshield, there is a definite resemblance to previous standard Cadillacs. No accident, this is a deliberate and eminently successful attempt to maintain trade-in value. Relatively negligible depreciation enables you to operate a Cadillac at the lowest cost per mile (8.5 cents, MT, Feb. '54) of any American car. The pay-off lies in the fact that Cadillac is the only company in the industry to enter 1954 with a solid backlog of 93,000 bona fide (de-

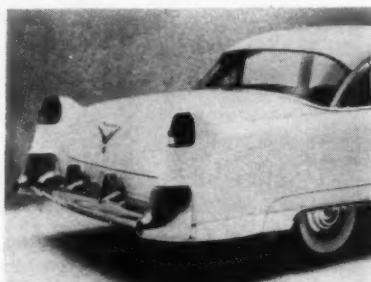
posit-paid) orders. Another reason for these orders may be . . .

THE FLEETWOOD BODIES which grace all Cadillacs, although only the super-luxurious Series 60 Special sedan and the elongated Series 75 Imperials have this fact scrolled in gold on the trunk lid. Series 62 models include the El Dorado and regular convertibles; Coupes de Ville and de Plain; and a four-door sedan which is ordinary only in the light of other Cadillacs. The exterior of these may be painted at your option, including one hue which the press release calls "a feminine shade of Iris." Once inside the Coupe de Ville, you are dazzled by a tapestry like your Grandmother used to weave. Silver metallic thread forms a flower pattern on a deep gray background framed by white leather. We really don't know whether 1954's interiors (in all cars) will cause a boom or a bust in the seat cover industry. Not a matter of conjecture, however, is . . .

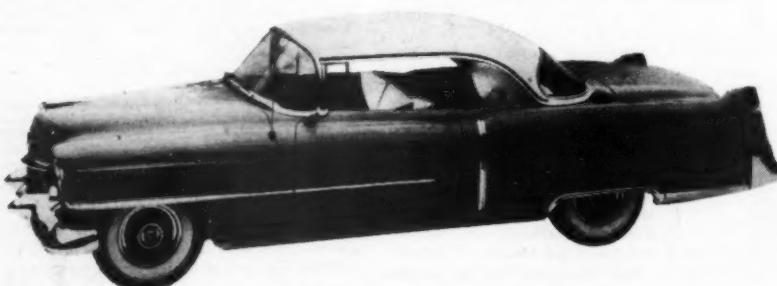
CADILLAC'S V-8, which this year has been upped to 230 horsepower. This is five under the current leader, Chrysler.



Series 60 Special Fleetwood sedan boasts interior spaciousness as well as the new cellular-type grille, wraparound windshield



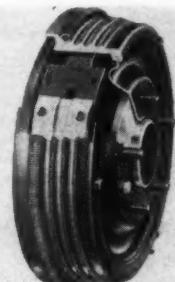
Prominent taillight fins, rounded exhaust openings and vertical bumper extensions are major design features of '54 Cadillac



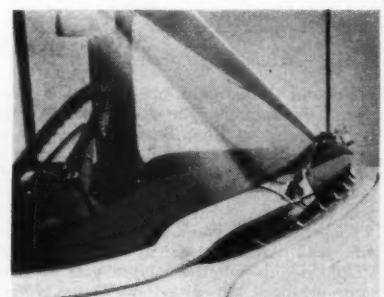
Graceful '54 Cadillac Coupe de Ville hardtop carries deluxe interior appointments in addition to new body styling. This model features floral-patterned, silver metallic tapestry cloth blended with white leather. Engine is 230-horsepower V-8

The new frame (completely redesigned) mounts the engine two inches lower than previously. Detail refinements include a chrome top compression ring, elimination of the expander on the oil ring, a higher compression ratio (8.25 to 1) and a fuel pump more resistant to vapor lock. Others have their anniversaries too, but you may be interested to know that this is the 40th year since Cadillac introduced America's first production V-8, and the fifth anniversary of the first postwar high-compression V-8. We don't know whether MT's suggestion of last May did the trick, but we're glad to see that Cadillac's oil filter is standard equipment in 1954. Accepted much more quickly was . . .

POWER STEERING, also standard this year. Incidentally which go along for the ride are wheel discs, outside rear view mirror, and vanity mirror. All Cadillacs come to you equipped with a coordinator, which device insures that the windshield wipers automatically operate long enough to clean up the mess made by the washers. One would think that a heater would be a more logical choice



Half-inch groove in Cadillac brake lining is designed to give even heat dissipation, improve brake durability, effectiveness



Part of Cadillac's intricate ventilation system forms one of the '54 styling features. Long, slotted intake extends width of hood

ON
16 '54 CADILLAC, OLDSMOBILE, MUNTZ, KAISER,
WILLYS...LATEST ON NASH-HUDSON MERGER

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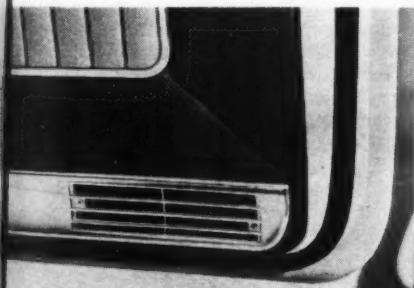
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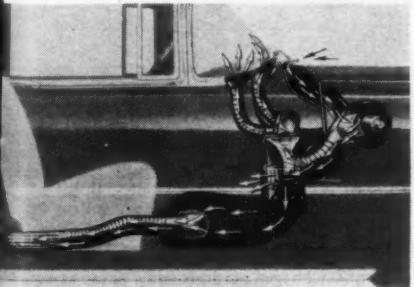
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for standard equipment than any or all of these, but one finds the answer when one inspects the optional Cadillac version. It's as complex as an automatic coal stoker, and probably far more efficient. For opposite extremes, there is a choice of two air conditioners similar to the one offered last year. Effortless driving enthusiasts should like the power brakes, windows, and front seat, not to mention Dual-Range Hydra-Matic. This transmission is standard again now that GM has fully recovered from the Livonia fire. A final touch for the man who, according to recent ads, relaxes by driving his Cadillac home, is the Autronic Eye. This device dims your lights to oncoming cars, but is sometimes equally courteous to gas stations and other sources of highway illumination. It's also optional on . . .

OLDSMOBILE FOR '54, the car which wasn't supposed to be introduced until 1955. That must be true also of Buick's Special and Century, for all these make common use of the new GM "B" body shell which has been completely redesigned this year. Yet it's amazing how



Grille at trailing edge of front door distributes heat past front seat to rear compartment. Warm air passes through door

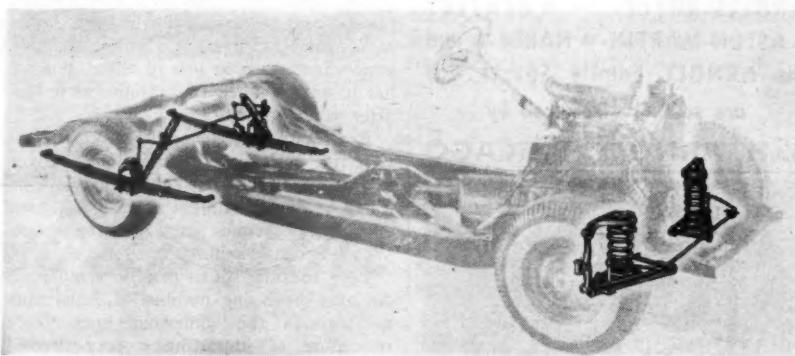


Optional fresh air heating system on '54 Cadillac utilizes cowl-mounted air intake, dual side-cowl heaters, special air ducts

March 1954



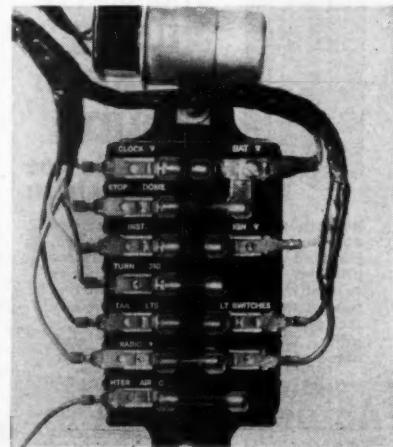
Oldsmobile's Super 88 sedan, only 60½ inches high, claims new wraparound windshield, cowl-wide ventilator, lower hood as part of new-model styling changes



New front coil springs, longer rear shock absorbers, and redesigned, five-leaf rear springs have been installed to give '54 Oldsmobiles more stability, softer ride

GM stylists can make two completely different cars out of the same basic shape. Perhaps the reason lies in the separation between Flint and Lansing —50-plus miles. At any rate, the Mighty Olds (Merry has been officially dropped) is a refreshing variation on a styling concept that should appeal to many. The new chrome side trim on closed models is strongly reminiscent of last year's Fiesta. When used to set off a two-tone color combination, it effectively integrates the contrasting paints and avoids that taxicab look. A feature of the new styling is the panoramic windshield with corner posts that are swept back well out of harm's way. Another safety feature is . . .

THE ROCKET ENGINE, which this year develops 185 bhp in 98s and Super 88s. Compression ratio is upped to 8.25 to 1 and the bore is increased one-eighth inch, giving a displacement of 324



Car owner and service man should benefit from Oldsmobile's centralized fuse box. Fuses are marked for easy identification

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EDITORIALS

Let's Make Driving Fun Again!

IT IS AN INESCAPABLE fact that the majority of Americans look upon their automobiles as just a means of getting from here to there. It does not occur to them to have fun in the process.

This almost universal attitude has created the American car as we know it today—whether Ford or Cadillac. Detroit has a stronger concentration of engineering talent than any other place in the world, and it's solely devoted to taking the chore out of driving. Unfortunately, the more automatic our cars become, the less fun they are to drive. We are caught in a paradox. We have power steering to ease the strain of weaving through traffic, yet it's advertised as retaining the "feel of the road."

That recalls a time when some American cars chugged miserably but reliably from here to there and others, such as Stutz, Mercer, and Marmon, were built to punch great holes in the atmosphere. We of MOTOR TREND are too young to have gone vacationing in one of these, but we bet it was as much fun enroute as it was after you got there.

At the risk of generalization, we feel that few golfers would trade their driver in for one of those machines that knocks a ball 300 yards straight as an arrow once every few seconds until it wears out. Why? Because golfing's a sport.

Let's consider sports cars for a moment. An ever-increasing number of Americans go through the somewhat uneconomic procedure of importing a four-wheeled roadster that to a golfer is a golf club instead of the aforementioned machine. And they'll even use it for going to work. Which goes to prove that even driving back and forth to work can be fun.

Could be that American cars in stock form are no longer fun to drive. They are supremely efficient, deluxe, and reliable—but they aren't fun. The same would be true of golf if it somehow degenerated (or advanced) to a routine.

There are two possible solutions: One is for us (and our contemporaries) to take on our shoulders the improbable burden of "educating" American car owners. Theoretically, then, demand would create supply. The more logical approach, surprisingly enough, has already been started by Chevrolet.

We sincerely believe that one of the reasons Chevrolet builds the Corvette is because it's fun. Granted, there's an advertising and sales promotional aspect, but if that were all, the gain would not justify the expenditure. If every manufacturer built for sale its equivalent of the Corvette, it would speed the day when American cars become more than just transportation at its best. Detroit would have more fun, too. It's the difference between cooking hamburgers over a kitchen stove or a campfire. Same burger, less profit, more work—but it tastes better.

The Corvette, however, misses on one vital point. Americans are prosperous, but Detroit can't live on filling up the right-hand side of a two-car garage. If Paul Bunyan could reach down, grab the Corvette, stretch it, and install weather-protected rear seats, you and we might dare bring one home to our single-car garages and wives. But wouldn't it be easier to sell the idea to them if we had a choice of 10 or more American-made family-type sports cars—that were feasible to own and fun to drive? We certainly believe so.

Dragging It Out

AS MOTORISTS, watching highway improvements (and more specifically, freeways) being made, we've often wondered why they take so long to be completed. Granted that a certain number of workers can only operate a certain amount of equipment up to a certain speed. But, if there were more workers using more equipment, wouldn't it get done that much sooner? It seems reasonable to suppose so.

You might say, "Street and highway improvements cost us as taxpayers enough as it is, without hiring more help and buying more equipment." On the other hand, if a job is dragged out over a long period, it's going to cost you as much as, if not more than, a job that's done in less time by more people.

Remember the problem you were given during basic arithmetic in school? It went something like this: If two men can build a house in six days, how long will it take four men to build the same house? By multiplying two times six, you come up with 12 man-workdays. This divided by four gives an answer of three days in which four men can build the house. Either house is built in the same number of man-workdays. But the second house is built in *half the time*.

We're not trying to judge. That's not for us to do, but we would like to pose the question: wouldn't the same plan work if it was applied to something like highway building?

—The Editors

Motor Trend

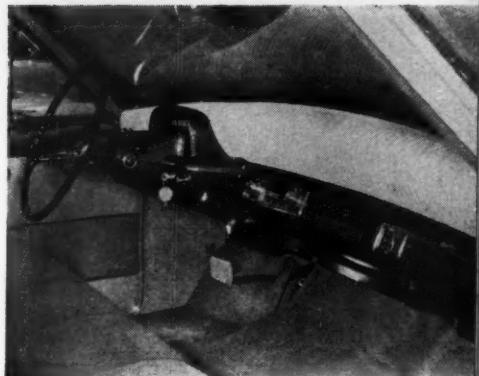
Spotlight on Detroit

(Continued from page 11)

cubic inches. Recent tests up Colorado's Monarch Pass graphically demonstrated the performance of the new engine. A 1953 Olds required five minutes, 24 seconds for the five-mile run, which is good time in anyone's stock car book. The 1954 beat it by 55 seconds. Another group of testers tool a '53 versus a '54 around the Indianapolis "bricks" for 10,000 miles at an average speed of 60 mph. This year's Olds showed 10 per cent greater economy. The new chassis is completely redesigned, providing a

several-inches-lower roof line without sacrifice of road clearance. To accomplish this, though, it was necessary to rotate the Hydra-Matic transmission (optional at extra cost) 22 degrees counterclockwise. Proof that last year's show cars are this year's production realities will be found in . . .

THE STARFIRE 98, a special and ultra-glamorous convertible coupe. The two-door Holiday can now be had in all three series and there is the usual as-



Fully shrouded steering column, well-hooded instruments are standout features of '54 Kaiser's colorful, padded dashboard

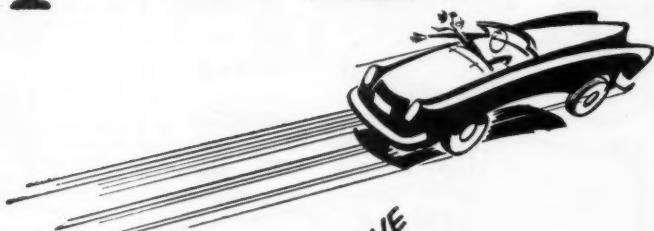


The supercharged '54 Kaiser (it's equipped with a McCulloch blower) shows concave-arched oval grille, chromed hood scoop, canted bumper guards among styling changes

sortment of sedans. We are writers, and as such, specialize in fancy adjectives. Yet if some courageous copywriter would only describe his product as Ivory soap-box blue, neon red, or beerbottle brown, we would know exactly what he meant. At least there's still black, which can be preceded by "ebony," "charcoal," or "pitch" without detracting one whit from the fact that black is black! Another example of the straightforward approach is . . .

(Continued on page 64)

For real get up and GO!



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Here is the answer to greater power and faster acceleration. Get the jump on the other fellow by installing a Bendix* Electric Fuel Pump. It delivers more gallons per hour, is easier to install and gives "less cost per mile" operation. It's the performance-proven, lightweight, compact electric fuel pump designed and manufactured by Bendix, foremost supplier to the automotive industry. Sold by independent garages and service stations. Write for illustrated folder.

*REG. U. S. PAT. OFF.

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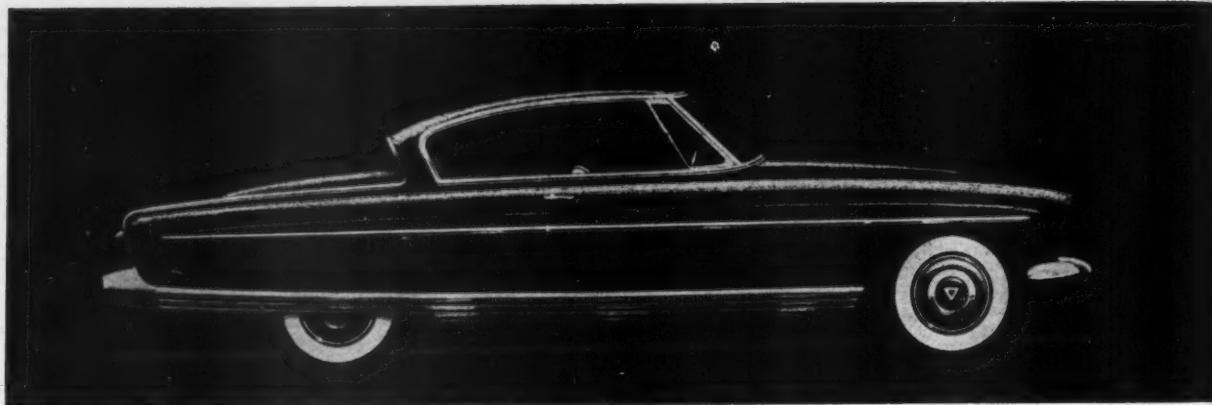
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Retaining Hudson's traditional engineering underneath, the coupe blends Studebaker components for a new Hudson look

Memo to Detroit

continued

Here are my notes on main features of the changed design: Hudson base molding treatment, original to Hudson and good, which they discarded in 1954.

Body side. Offset panel with long chrome molding replacing Studebaker "race line."

Top. Longer roof line and longer deck line achieved by using "leaning out" type of back window similar to Packard's "Balboa," only in this case the chrome edging around the rear window blends gracefully into the rear fender molding.

Rear bumper guards. At the ends of the fenders, much larger than Studebaker's, with exhaust pipes in center of bumper guards instead of on the body side as in the Hudson "Italia."

Frontal appearance. Should always be a distinguishing feature. This design is definitely based on the Hudson insignia, a triangle. The triangle motif is reflected in the front bumper, giving a pleasing *simple* design.

Simplicity and good proportions are always present in a style leader!

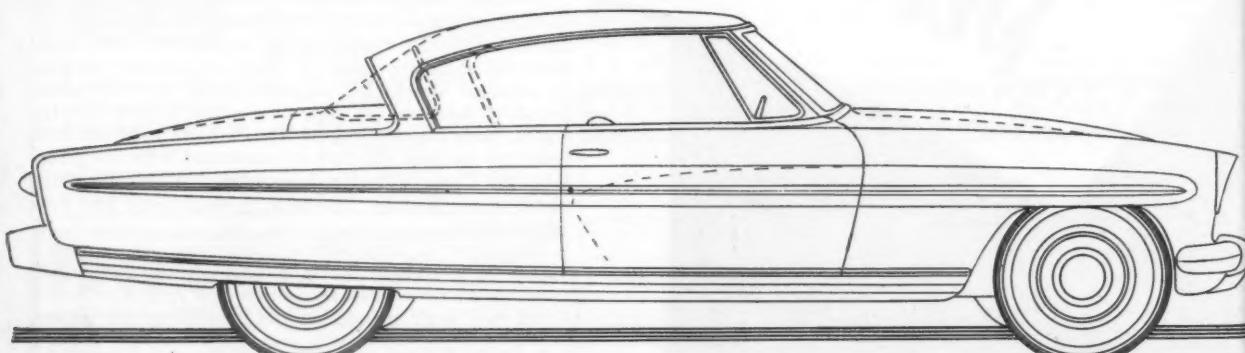
There's no attempt here, you'll notice, to use exactly the same body shell with no changes whatsoever. That has been tried in a couple of cases that have led not only to confusion on the part of buyers but, each time, to the rapid demise of the cars concerned. Do you remember when Reo and Franklin shared

an identical body? And when Graham and Hupp took turns with the old Cord dies, making no changes at all in the body? It wasn't the only factor that led to the doom of those respectable makes, but it helped.

At the bottom of this page is the projected Hudson sport coupe (solid line) with the present Studebaker (dotted line). Here you can see the considerable differences in the two cars. Yet that unusual Hudson top, tilted window and all, is simply a longer Studebaker coupe top (Studebaker already builds its Land Cruiser by lengthening the smaller sedan body in the top and rear doors). And the entire car retains the now-traditional Hudson brawny look.

The twin cowls grew from an older Hudson dashboard of the spread-out variety, which used a large speedometer in front of the driver and a clock to balance it on the right. Good features of that panel could combine with the eye-level '54 dash (see page 22) to play up this distinctive new hood.

GM, Chrysler Corp., and Ford have used this same-only-different formula for years, and no one can question their success. For though their different makes use many interchangeable parts, each retains its own identity. That's the basic idea here, but with what we consider a new smartness that can sell cars in the terrifically competitive years to come.



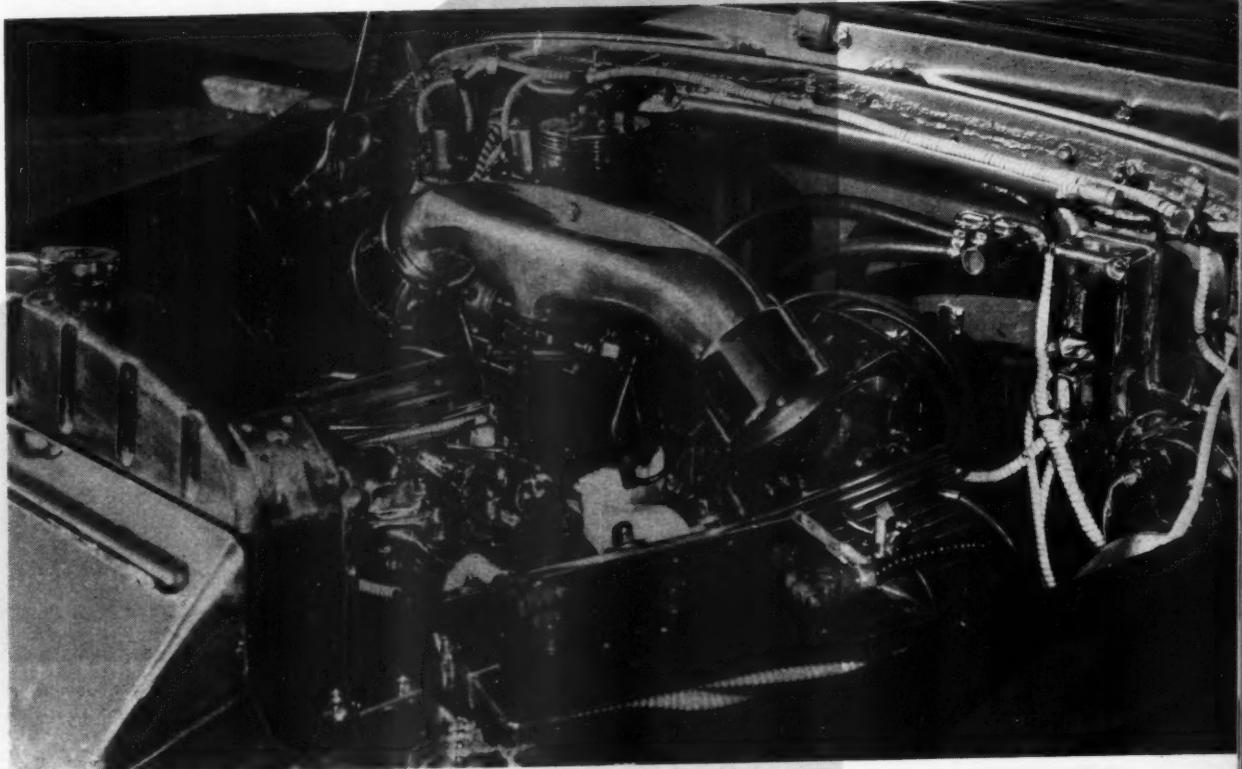
Solid line shows how Wright-designed Hudson would vary from '53 Studebaker hardtop. Dotted lines show Raymond Loewy's Stude Sixteen

Motor Trend

The Golden Touch

*What better place for that Midas
touch of individuality
than on your car's very heart?*

A Photo Story by Bill Southworth and Jim Lodge



CUSTOMS ARE TOUCHY. Some owners say they run better when they hear admiring comments as they purr along their low-slung way. And there's a growing suspicion that any car thrives when its all-important wheels are decorated, trimmed with white, and exposed instead of hidden like some unmentionable secret. Even Detroit has gone to full wheel openings (as in the '54 Buick hardtop and convertibles). This awareness of the beauty of mechanical parts has led, in turn, to the latest customizing trick. What's more vital to a car than its engine? Obviously, nothing. So what more logical spot to glorify?

On this sound assumption, Jack Nethercutt proceeded with his idea. Outside, his car is a '52 Olds 98 Holiday, Barris-handled, a fairly typical "conservative custom." It's a maroon

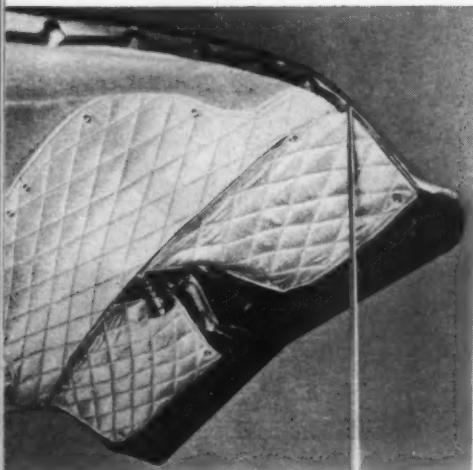
that turns to gold in certain lights, and inside, red and white custom upholstery testifies that cash as well as care went into the car. Under its hood waits a competent '53 Cadillac with all the fixings. But no drab stock paint covers it; instead, the engine compartment is a veritable Gershwin composition in crashing gold (both satin finished and the gleaming variety) and ubiquitous chrome.

The intake manifold is gold plated; valve covers, air filter, and radiator are chrome. Plastic telephone cord covers keep wiring neat. Headers are lined with a baked-on preparation used inside jet aircraft engines. Topping everything is a sound-deadening mat of diamond-stitched gold fabric. For more photos of the Goldsmobile, see the next page.

CONTINUED

The Golden Touch

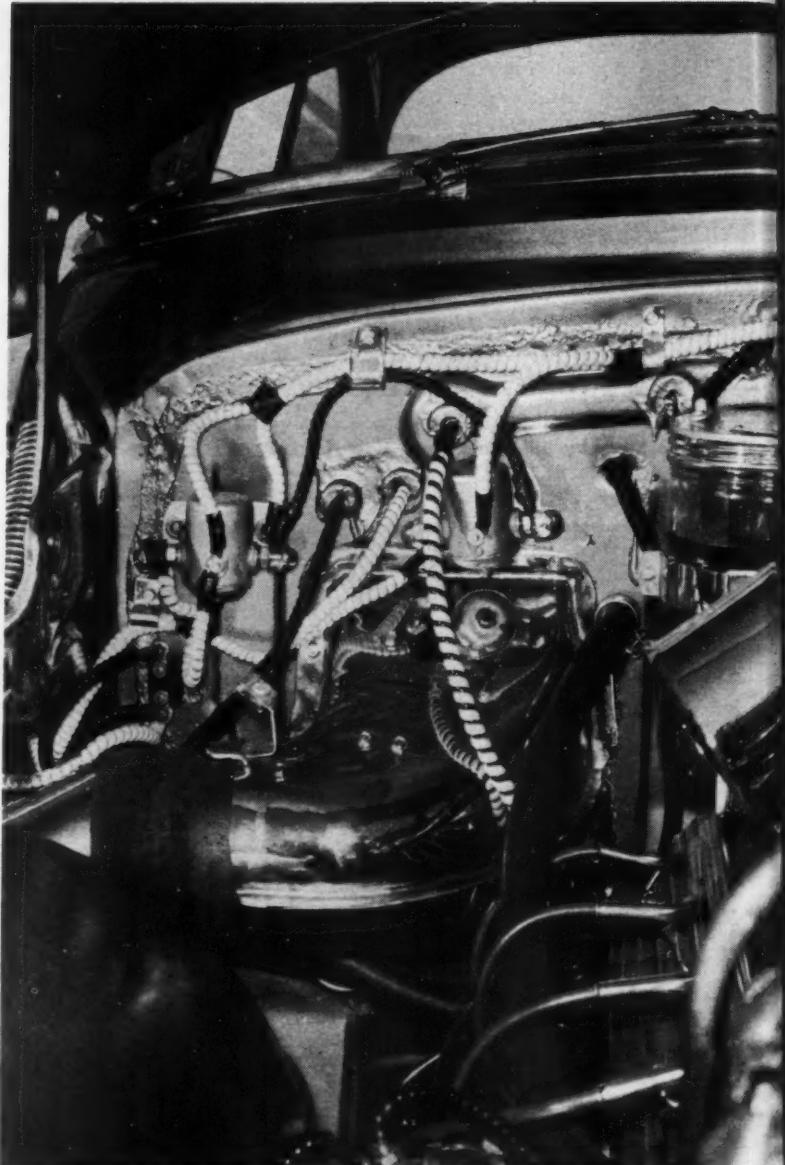
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This Olds has no more rough spots under the hood than it has in its custom interior



George Barris carefully applies masking tape and paper before spraying firewall

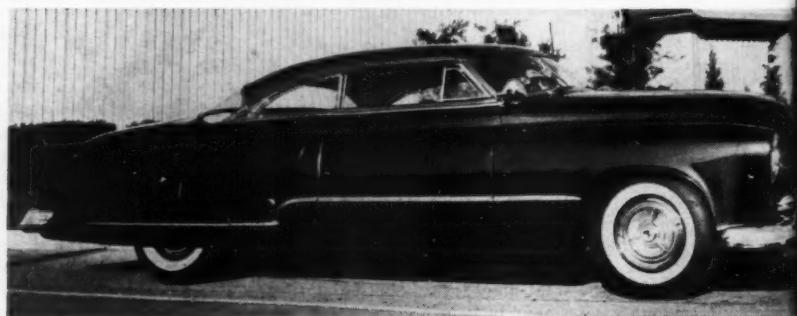


Today's automobiles, far ahead of famed classics engineeringwise, sometimes look as though they wore Mother Hubbards over their engines. Not so this gilded car



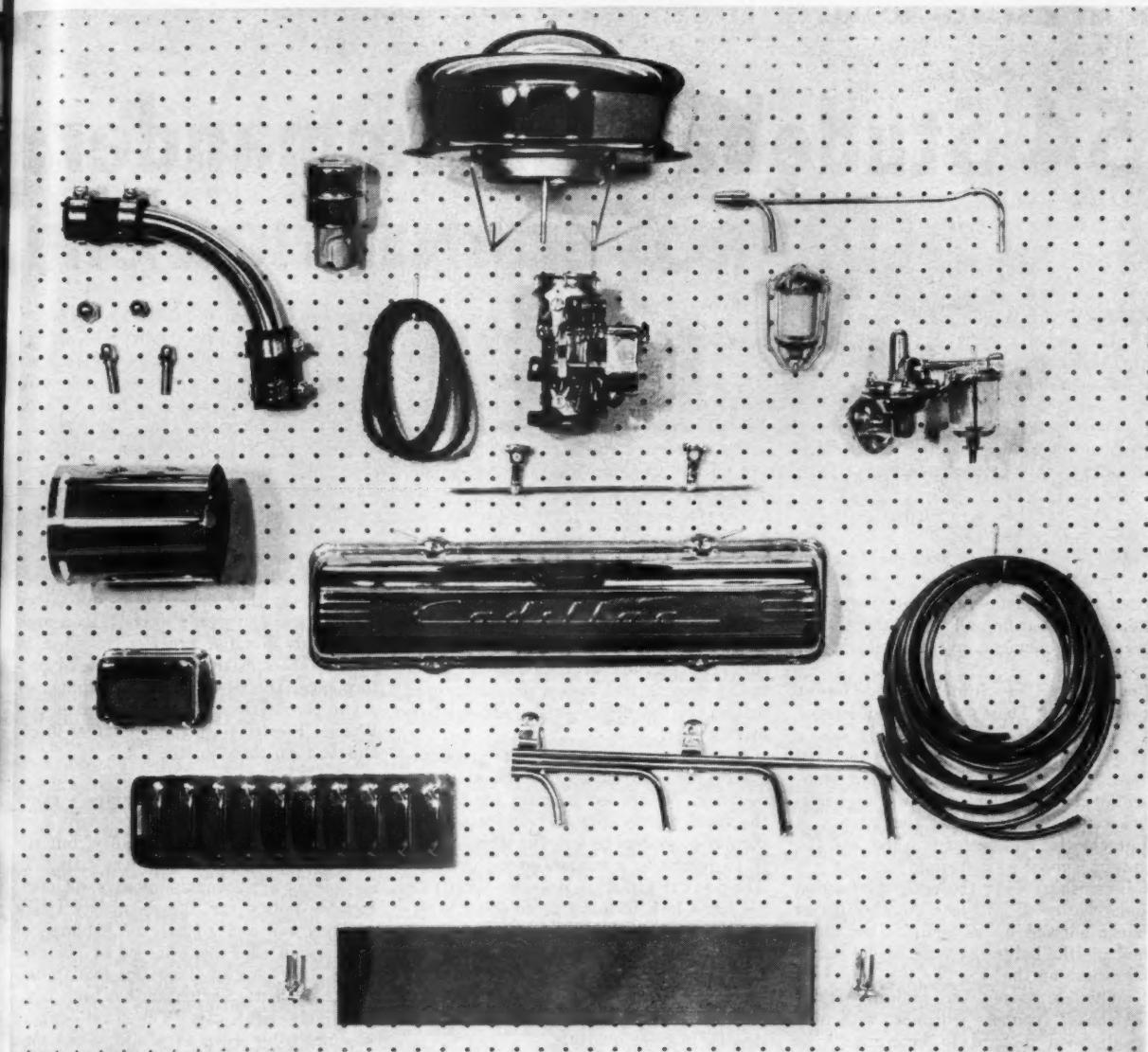
Splashpan vents, smoothly painted in mat gold, help keep engine room neat

Eighteen



Outside, the car is a golden-hued maroon. With its top chopped 2½ inches, Starfire-type wheel discs, and hearty dechroming, it is not spectacular but will wear well

Motor Trend



One of the most practical aspects of under-the-hood chroming is that you can do it little by little as you have the spare cash. Even extra-neat wiring or a chromed oil-breather cap can start you on your way to the handsomest engine you ever

saw. Take a look at any of Detroit's products with engine redecorating in mind; you'll see the clean, no-nonsense look that only a fine piece of machinery can have. Why should it be left in grim black? These parts can start you on your way



Front emphasizes heavy GM look by concentrating all chrome near the bottom



Red and white plastic interior treatment includes this dramatic pleated headliner



Rear bumper includes neatly faired exhausts at each end in Cadillac fashion

'54 Studebaker Commander: IMPROVED INTERIOR and

WHEN MOTOR TREND Research tested the revolutionary '53 Studebaker Commander coupe, we pointed out the car's drawbacks and its good features. The new model Studebaker's brakes were average; its carrying capacity was limited. It had good riding qualities and outstanding roadability; its performance was quite acceptable. On most counts, the '53 Studebaker left little to be desired.

When we picked up a '54 Studebaker Commander Regal four-door sedan at the company's Los Angeles plant, we were surprised to find that—aside from the usual alterations to grille and trim—there were several improvements over last year's car.

How is the '54 Studebaker different from the '53? There's not much difference in looks. The Commander Regal has a heavy chrome rub strip along its recessed sides, a waffle-type grille, and slight ornamental changes. Our real surprise began with our first close look: the interior is more colorful and better finished, and the exterior shows a vast improvement (in workmanship) over the early production model we tested last year. Another major change showed up as soon as we drove the car—the brakes were decidedly better than those on the '53.

"Whether or not the radically styled Studebaker (coupes) will meet with public approval is hard to determine," we said last year. Now a Studebaker representative tells us that the company toolled up to make the coupes 25 per cent of their total production for '53. By the

end of the year, they had taken over more than 50 per cent of Studebaker's total sales and production.

Is the new sedan as easy to handle as the '53 coupe? It's not quite as agile, but it's a well-behaved car, one that a new owner can easily adjust to. You'll notice that clutch and brake pedal (the test car had overdrive) are farther to the left than usual. This is a surprise at first, but no problem after a few miles. The car is easy to handle under all conditions; wide, low windows and short overhang help in parking, and well-defined ridges on the steering wheel give positive control. The relation of the steering wheel to the driver's seat means relaxed, proper seating for the driver—a definite asset to driving ease.

Steering was rather stiff; the '53 Commander and Champion had the same peculiarity. We needed an extra tug to turn the front wheels smoothly and easily; in cornering, we had to jerk the wheel slightly to return to a straight-ahead position. The test car had Ross steering (specifying $5\frac{1}{4}$ turns lock to lock) as do other Western Studebakers. Cars assembled in South Bend come with Saginaw steering ($4\frac{1}{4}$ turns). Studebaker's power steering ($\$177$ extra, $4\frac{1}{4}$ turns) will ease any steering problem for those who demand effortless driving in close quarters.

How good are the brakes? From all appearances, 1954 should be a banner year in stopping distances, for once again

(see the '54 Nash Rambler test, January MT) we've tested a car that sets an example for others. The pace-setting Commander's stopping ability was excellent at all speeds tested, largely because of new brakes introduced on the '54 models. Stopping the 3380-pound car in 41 feet at 30 mph, 94 feet at 45, and 159 feet at 60 mph, the self-centering, self-energizing brakes showed no fade, had plenty of reserve, and were quick acting at all times. South Bend says they give 30 per cent more braking power than the older type; we say they showed a 37-foot safety margin over last year's brakes at 60 mph—certainly notable progress in what is perhaps the most important phase of performance. The new brakes, the product of a two-corporation effort (Studebaker and Wagner Electric) are slightly larger in diameter than those on the '53.

Does the sedan have the coupe's roadability? Our '53 coupe had a slight edge over the '54 sedan in roadability, but the four-door still gets an excellent rating. In its role as a reasonably roomy and comfortable family car, the sedan has a lack of body roll and an ease of handling at high speeds that make it one of the best in its class (or any other) for roadability. For some years, Studebaker has built comparatively light cars. Yet wind wander was negligible even in a stiff crosswind; the car demanded no correction on normal roads, and streetcar tracks or uneven road shoulders did not affect its stability at all. We feel that the owner of the flat-cor-



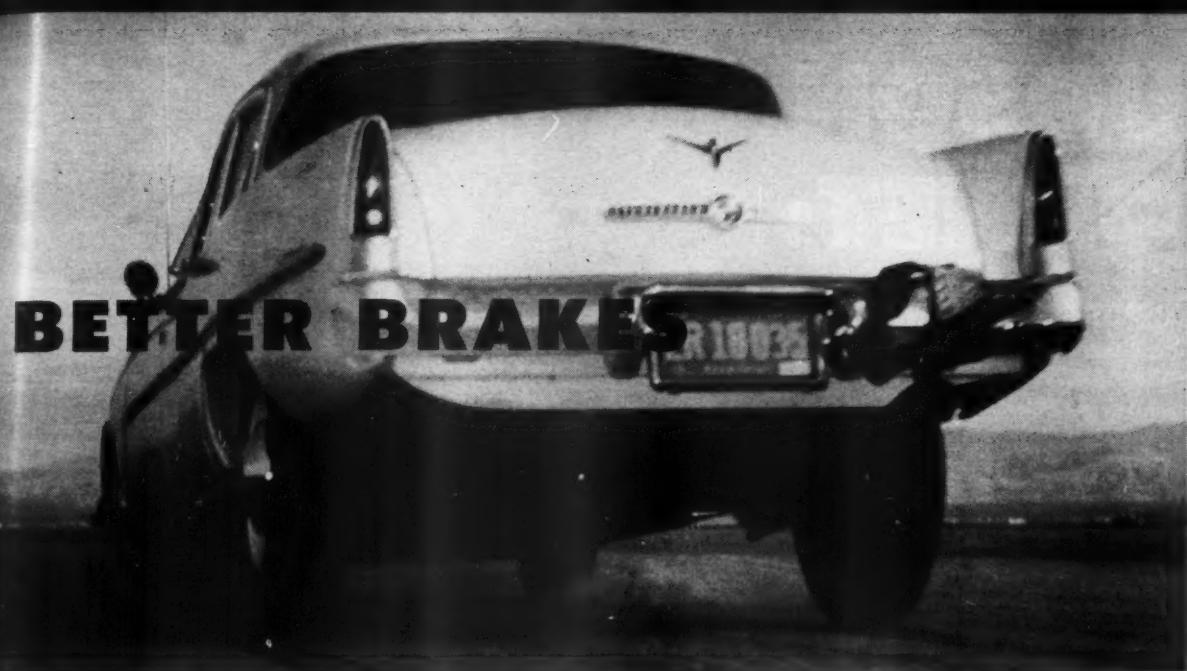
THE CAR AT A GLANCE

	FAIR	AVERAGE	GOOD	EXCELLENT
ACCELERATION Standing start 1/4 mile 30-80 mph	X		X	
BODYWORK			X	
BRAKES Stopping distance average @ 30, 45, 60 mph and traffic				X
EASE OF HANDLING	X			
FUEL ECONOMY Average @ 30, 45, 60, 75 mph			X	
INTERIOR	X			
RIDE	X			
ROADABILITY			X	

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BETTER BRAKES



nering Commander sedan will gain an early confidence in his car. Should you put the car into a bad turn, the Commander's "stickability," coupled with its eager engine, will bring it out of trouble with only an easily corrected drift. Stiff suspension and light weight combine to make it bounce on an uneven surface, and it has a tendency to lose traction when the going gets rough.

Do flat cornering and "stickability" mean a hard ride? No, your passengers will be uncomfortable only when you take rough roads at fairly high speeds. At normal speeds, the Commander provides a solid but comfortable ride, a ride with a noticeable lack of side-to-side body movement and roll.

There was no pitching or unusual oscillation to the body, even in severe dips; recovery was rapid and the car didn't jar the passengers when it settled down again.

Some road shock was transmitted through the body on rough surfaces, and road noise was fairly high (undercoating would help dampen sound and vibration). Engine noise was at a minimum during acceleration and at cruising speeds. Wind noise (with either large windows or wings open) was bothersome at all but the lowest speeds.

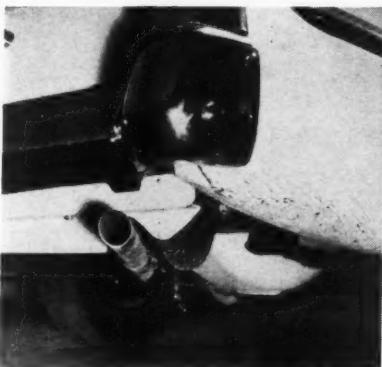
Is the interior comfortable? Wide and comfortable seats give good support to legs, back, and shoulders. Legroom is adequate in front and back, and headroom is low only at the extreme edges of the rear seat. The test sedan had no rear center armrest (there's a folding one in the longer Land Cruiser, and this year all the coupes have one that's removable so a child can stretch out in back). Firm foam-rubber-padded seats proved untiring even after four or five hours behind the comfortably angled steering wheel.

Like the Studebakers tested in '53, the new car's front seat moved slightly when the car stopped or started; unlike previous models, the '54 sedan had an easily adjusted seat that the driver could slide into position without help.

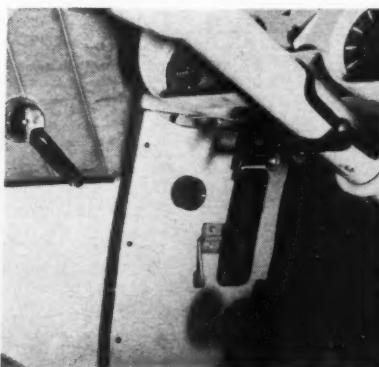
Are interior appointments up to the standard of its class? While the '54 Commander's interior can't be considered plush, it's up there with the others at its price. Workmanship, greatly improved over that in the '53 test car, is on a plane with many higher-priced cars tested in the past.

MT's Commander Regal test car had a pleasant, durable-looking interior. Nylon fabric covered the seats, and the easily cleaned plastic doorpanels seemed scuff-proof. The floor mats were of average quality, and much better fitted and trimmed than those in the '53 test car.

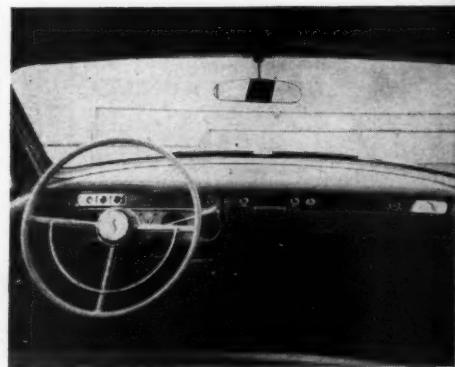
(Continued on page 46)



Rounded steel "bumpers" (one is shown at right of exhaust pipe) protect underbody and pipe if rear end should scrape curb



Washable door panels simplify Studebaker spring cleaning. Foot pedals are placed farther toward the left than in many cars



Wide windshield, low hood combine to give good forward vision. Slanted panel has toggle switches mounted above dials

HUDSON HORNET:

Designed for Travel



AN MT RESEARCH ROAD TEST REPORT

HUDSON OWNERS, a loyal crew if there ever was one, were happy when their car led the '54 new car parade. Those who weren't ready to trade were pleased to find that radical style changes hadn't orphaned their cars; those ready for a new Hudson saw a fresh look, plus the appeal of higher performance, new power brakes and power steering, and interiors where style had caught up with quality.

Does the '54 Hudson look different? The Hornet features a new grille and restyled rear deck and fenders. Basically, the body is the familiar one. The new grille has divorced the curving bar form to become low, wide, and simplified. The rear deck now has bustle-back proportions, but rear-fender design (familiarly finlike in appearance) and fendertip taillights eliminate any foreshortened look.

Has the engine changed? Although the Hudson Hornet has long had a secure claim to the most powerful six-cylinder engine among American stock cars, the '54 model clinches the title with 170 horsepower (with Twin H-Power). Now that

term has lost its mystery (it indicates dual carburetors, which give 10 more bhp for an extra \$86), Hudson has thrown another puzzler at the motorist with "Super Induction." This rocket-era phrase boils down to a new combustion chamber design. The '54 Hornet's block has been relieved (the area between the piston and valves has been gouged out to permit more efficient passage of intake mixture and exhaust gases) and it has a camshaft with longer dwell. The new Hornet engine is basically the "7-X," formerly an optional powerplant. A 7.5 to 1 aluminum cylinder head is now standard, giving the stock Hornet 160 bhp.

Is the new Hornet easy to drive? MT's test car was equipped with power steering, power brakes, and Hydra-Matic transmission, which can add up only to easy driving, as far as manual control is concerned. One possible drawback to driving peace of mind is that the driver can't see his right front fender; a tall person, by stretching, can catch a glimpse of the chrome-ringed taillight when easing into a postage stamp parking place.

Is the Hornet easy to handle? The handling qualities of the '53 Hornet were considered excellent by MT Research; the car's steering characteristics imparted a feeling of confidence to the driver. The '54 Hornet, with direct-action, linkage-type power steering, is more responsive to wheel movement, but the long-favored feeling of being master of the man-sized Hornet is missing.

Hudson stresses the fact that its power steering system uses the same steering ratio and linkage as the standard setup. Because of this, it would take no extra effort to turn the wheels if the power booster failed. Because of Hudson's ordinarily fine steering, and because this is their first car with power steering, we're inclined to think that our criticisms may not apply to later models.

Does the new Hudson Hornet have good roadability? The Hornet's records in stock-car racing are due partly to its outstanding roadability. The Hornet is not to be denied praise as one of our top road-hugging machines; rutted, bumpy roads meant nothing to MT's test car, and even

THE CAR AT A GLANCE

	FAIR	AVERAGE	GOOD	EXCELLENT
ACCELERATION Standing start 1/4 mile 30-80 mph			X	X
BODYWORK		X		
BRAKES Stopping distance average @ 30, 45, 60 mph and traffic	X			
EASE OF HANDLING			X	
FUEL ECONOMY Average @ 30, 45, 60, 75 mph	X			
INTERIOR			X	
RIDE		X		
ROADABILITY			X	





at high speeds on rough roads, the rear end remained stable. There was no steering wheel vibration or shock, and no wheel hop at any time during the test.

Is passenger comfort overshadowed in the limelight of the Hornet's racing feats? Not in the least. MT's test car had the Hudson "export-type" suspension system—beefed-up front end, heavy-duty shocks, and stiffer leaf springs—and the ride was very nearly as good as that of

the '53 Hornet with the softer standard suspension. You'll like this kit if you drive in backwoods country or carry heavy loads. Another advantage, realized more by the racing clan, is that the car corners flatter than the stock Hornet, itself no slouch in this respect.

The new Hornet doesn't throw its passengers around unless it's manhandled. This is true of many cars, but the Hornet, unlike many others, really has to be overdriven before passengers feel any discom-

fort from heel-over or sidesway. Normal highway dips and bad bumps have little or no effect on the Hornet; it keeps its solid feel at all speeds and on all road surfaces.

Although road noise is low, the Hornet's high-revving engine is extremely noisy when put to task in low gear. The intake of the Twin H-Power unit causes some noise; add to this the car's normal valve train noise, fan noise (high revs at

(Continued on page 52)



Well-executed placement of accessories eases servicing of twin-carbed engine



Hornet's power brake pedal is placed low, near gas pedal for easy, hasty application

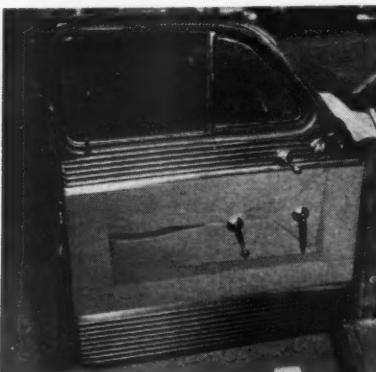


"It makes a world of difference," said one onlooker of Hornet's unobtrusive grille



A note of real luxury is found in Hudson's wide, folding armrest dividing the rear seat

March 1954



Hornet's handsome, well-tailored door panel retains familiar recessed armrest

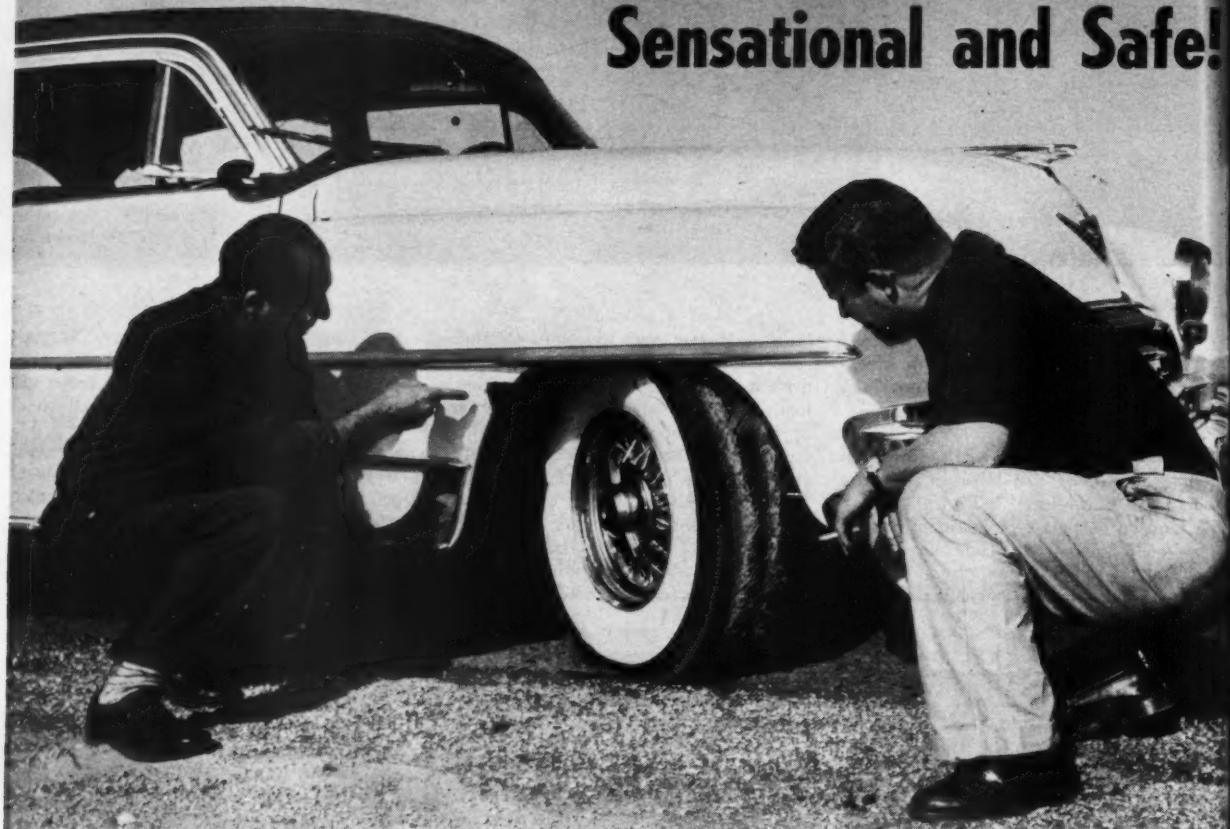


New finlike taillights, bulging deck lid are part of '54 Hornet's styling changes

Twenty-three

CHRYSLER NEW YORKER DELUXE

Sensational and Safe!



AN MT RESEARCH ROAD TEST REPORT

AS FAR AS the car-minded public is concerned, the introduction of a new Chrysler has come to mean one prime question: how much power this year? Ever since the coming of the 180-horsepower engine in '51, the well-known potential of the big V-8 has kept interested spectators on edge wondering when Chrysler was going to shoot the works. This year, as you know, Chrysler has showed up with a startling 235 horsepower, sending the FirePower engine once again to the head of the power class.

Sharing the spotlight with the horsepower increase is Chrysler's all-new, all-automatic transmission, PowerFlite. Though we previewed PowerFlite in our November and December issues, the performance of this clutchless transmission coupled with the more powerful engine was a focal point of MT Research's road test of the '54 Chrysler New Yorker Deluxe four-door sedan. A note of explanation: the New Yorker Deluxe has 235 bhp, the standard New Yorker a mere 195.

Because little else is different about the '54 Chrysler, this test is, for the most part, a comparison of results; but the many other things that might affect your possible purchase of a new Chrysler won't be neglected. Before we go into the subject of performance, let's ask ourselves some typical showroom questions, to see if this superlative Chrysler effort suits our needs and tastes.

The New Yorker Deluxe is a large car; is it hard to handle? MT's test car, with power steering, handled as easily if not easier than *any car of any size*, with or without power steering. Chrysler's full-time system is unusually free moving, and all feeling of wheel fight or road touch is absent. At high speeds, this lack of road feel results in a floating sensation. You'll soon get used to the feather-touch steering, but as for that first turn after you drive out of the Chrysler showroom, take it easy! You'll have a natural tendency to oversteer this luxurious, heavy car.

Power steering makes parking no problem. (We say this advisedly, after watching the seven-year-old daughter of one of us handle the wheel with no visible strain.) Generally good vision to front and rear, combined with gently responsive PowerFlite, makes the Chrysler fairly easy to maneuver in traffic in spite of its bulk.

Is it a smooth-riding, quiet car? Few cars can match the Chrysler's ability to smooth out bumps and ruts without tipping the passengers out of their seats. One conservative bounce was the only evidence of a dip; there was no excessive up-and-down body movement. The '54 Chrysler test car showed slightly less heel-over and roll than last year's test car because of more fully stabilized suspension.

MT's test car was not undercoated and had no sound deadening under the hood, yet engine noise was negligible. Wind noise was not bothersome at any speed, and road rumble was not transmitted through the body.

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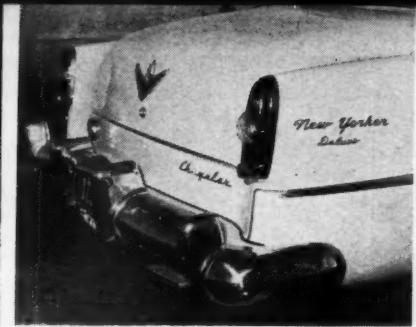
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March 1954

Twenty-five



Instrument panel change this year is in the two large dials, mounted in hooded, engine-turned aluminum panel. Warning lights are used for ammeter and oil pressure indicators



More chrome enhances rear end treatment for '54. Luggage compartment is roomy

Does the Chrysler's good ride mean poor roadability? Surprisingly, the softly sprung New Yorker Deluxe stuck to tight turns easily, had no tendency to break loose on washboard roads (at speeds up to 35 and 50 miles per hour) and refused to wander or drift even at the highest speeds. Its reaction to a tight turn (minimum turning radius) under full power was to go into a slight broadside drift, rather than throw its rear wheels into a slide.

Does the Chrysler's interior rate an "Excellent" again this year? The rating MT Research gave the '53 Chrysler's interior was based on very good workmanship and quality of materials; comfortable, wide, chair-height seats; pull-down armrests front and back, and general appearance of color and material. This year's car is similar, but isn't durable enough for everyday driving.

The new dashboard rates an "Excellent." Now padded both top and bottom, the panel leaves only the heat and vent controls (low and at the right of the steering column) projecting. There is no glare from any part of the panel. The glove compartment is of average size.

Headroom is more than adequate in front and rear, and legroom is unrestrained. Chrome assist bars are mounted on the back of the front seat for the convenience of rear passengers; MT con-

tinues to suggest that these be recessed or replaced with cord-type grips to lessen the possibility of injury should the passengers be thrown forward suddenly.

Does the Chrysler have clearly marked instruments? Are the controls handy? One of the changes in the '54 model is the instrument grouping. This year's instruments are in two large dials, mounted in a hooded, engine-turned aluminum panel. (The burnished metal is pleasantly reminiscent of bygone Cord-Auburn days.) Unfortunately, a full complement of instruments is lacking, for the '54 Chrysler, like others, now utilizes warning lights for ammeter and oil pressure indicators. Although the driver cannot tell how much his oil pressure has dropped over a certain period, nor does he know if the voltage regulator is controlling current flow, for 95 per cent of car owners the warning lights would be adequate. Only recently one of our own staff got caught in Sunday traffic with a battery so low that the starter wouldn't engage—all because he had been driving around for several days with no charging from his worn-out generator. He has conventional dials on his car, and he feels that a red warning light would not have gone unnoticed.

The PowerFlite quadrant is illuminated for night operation (NEUTRAL is a different color from the other gear positions).

The quadrant reads REVERSE, NEUTRAL, DRIVE, LOW (from left to right), and is "gated" to shift in much the same manner as a conventional gear shift; a driver familiar only with a conventional transmission shift pattern will have little trouble selecting the proper gear range, using feel only and never looking down.

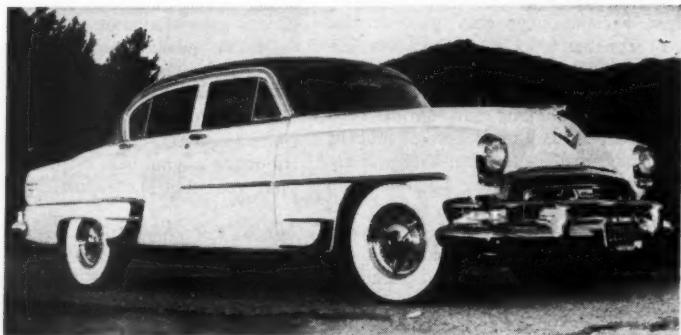
The T-handled parking brake (internal-expanding type, acting on the driveshaft) is under the left side of the dashboard. Its action is easy and positive. Chrysler claims its effectiveness eliminates the need of a special parking, or locking, sprag in the PowerFlite transmission. MT tested it severely and found it to be by far the strongest handbrake in any U.S. car we've tested; the car simply refused to move with it on.

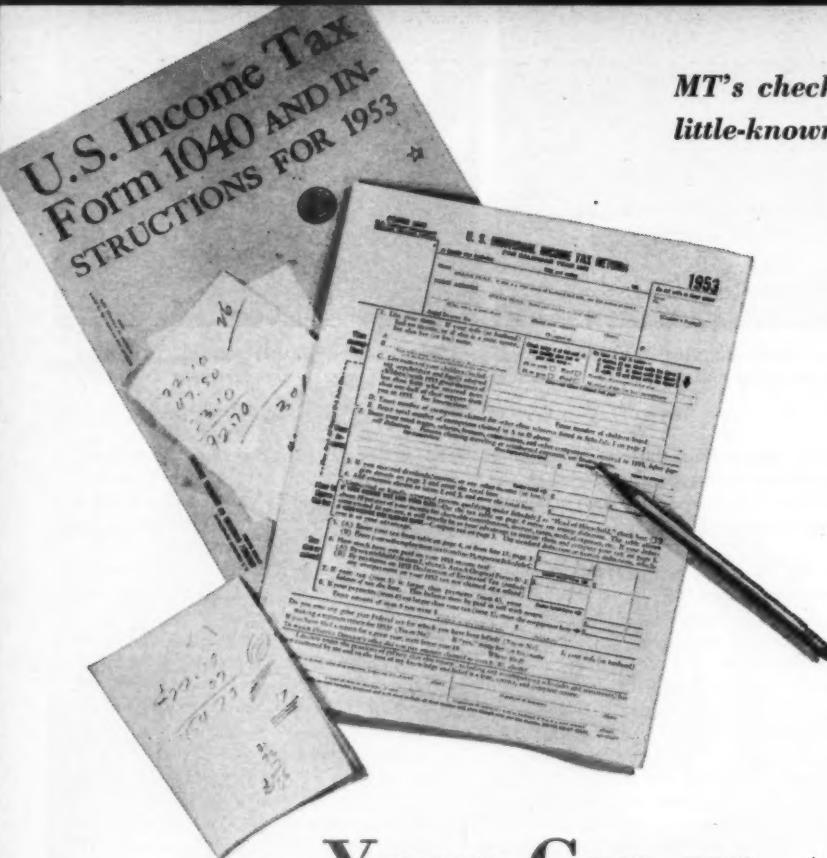
How does the heat and vent system work? Chrysler is one of the few cars to retain a cowl-mounted fresh air intake (others are now returning to the exhaust-free system); its intake is satisfactory for cooling the car in warm weather. The heater warmed our test car on chilly mornings, but its output would not have been adequate for extremely cold weather. This was evidently the result of a low-temperature thermostat in the cooling system, for the heater was otherwise identical with the one on the '53 test car, which was

(Continued on page 56)

THE CAR AT A GLANCE

	FAIR	AVERAGE	GOOD	EXCELLENT
ACCELERATION				
Standing start 1/4 mile 30-80 mph			X	X
BODYWORK			X	
BRAKES				
Stopping distance average @ 30, 45, 60 mph and traffic				X
EASE OF HANDLING				X
FUEL ECONOMY				
Average @ 30, 45, 60, 75 mph & traffic	X			
INTERIOR			X	
RIDE			X	
ROADABILITY			X	





Your Car vs. the Ides of March

NOWADAYS it takes an expert in the field of figures to make out that great American report that causes all the headaches around March 15th. Again this year we'll attempt to make this unpleasant task a little easier for you by delving into the multitudinous problems involving your automobile and giving you the lowdown. Hope we save you some money!

One fellow we know wrecked his car to the tune of \$273, but his insurance company paid only \$223. He didn't know he could deduct the \$50 loss on his income tax return. We know a salesman whose expense account pays only part of the cost of running his car for business. He was surprised to learn that he could deduct the remaining expense. And there's the other side, too. One man sold his 1950 Ford, which he had spent several months customizing, at a neat profit of \$350. He didn't know he should have listed it on Schedule D in his Form 1040, so now he's paying it off late (plus interest, of course).

To help you avoid such common but costly errors and prepare your return as it specifically applies to your car, we dug into weighty texts and consulted a helpful expert with the Bureau of Internal Revenue. We came up with a surprising number of ways that you can save yourself

money over and above the standard 10 per cent allowance. Itemizing your deductions may take a little extra effort and time, but it pays off. Here are the answers to the typical questions that'll come up when you make out your return:

Contributions

My nephew graduated from high school last spring and I gave him a new car for a present. Can I deduct it as a contribution in my return?

No. The law does not allow deductions for gifts to individuals, however worthy. If you gave the same car to a religious, charitable, educational, scientific, or literary organization (except one operated for personal profit), and providing its cost wasn't over 20 per cent of your total income (assuming you made no other contributions), you can include the gift in your contributions report.

My wife works for the Red Cross every year. Besides make a cash donation herself, she uses the family car for several weeks making calls. Can I deduct this? Gasoline and oil costs during this volunteer work are legitimate expenses deductible from your joint return. (If she buys a uniform, it's deductible too.)

MT's check list now offers even more little-known ways to save you money

By Jim Potter

Interest

Like half of America, I'm buying my car on time; is the interest on my installment contract deductible?

Yes, interest is deductible; but be careful to distinguish between the amount specifically charged as "interest" and other items on your automobile installment contract, such as taxes and insurance. Some new and used car dealers do not list interest as such on their contracts. The time to catch this is when you buy your car. Insist that handling and finance charges be listed as interest. However, a recent tax decision holds that if the carrying charge was intended as interest, it is allowable as a deductible item. This decision is contrary to the former rule that interest had to be called interest to be deductible.

I bought my car in October, 1952, on a time basis with a balance due of \$1800. According to my contract, my interest rate is 12 per cent, with the amount payable in 18 months. What interest deduction can I make?

You can deduct only the interest you actually pay each year; therefore, you should have deducted the interest charge for two months from your 1952 return (assuming you made two payments in '52); 12 months' interest can come off your current 1953 return, and the rest from next year's return. Without figuring the interest on a declining balance basis, this would be \$24 for '52, \$144 for '53, and \$48 for '54.

Other Taxes

I bought my car in '53; is the sales tax deductible?

Yes. On a \$3000 car with a three per cent sales tax, the allowance on this one item would amount to \$90. Don't forget that you can estimate sales tax on everything you bought during the year, whether the tax was a local or a state one.

I understand gas taxes are deductible. Where can I find out the tax in my state? Your gas station or the local Collector of Internal Revenue can tell you. Be sure to ask for the state gas tax only; federal gas tax is not deductible.

I didn't keep a record of the number of gallons of gas that I used during the year. Is there anything I can do about it now? The simplest method is to check your odometer and make an estimate of the number of miles you drove during '53. Divide that by the average number of miles your car runs per gallon of gas; then

multiply the total gallons by the tax. Suppose you drove 10,000 miles during the year, you average 15 miles per gallon, and your state's gas tax is four cents. Then $10,000 \div 15 = 667$; 667×4 cents is \$26.68 on which you won't have to pay a tax.

What about deducting my auto license?
Deduct state and city license fees. You can charge off your driver's license fee, too (but not auto inspection fees).

Collision, Storm, and Theft Loss

A lot of taxpayers forget that they can save taxes after an automobile accident.

I had an accident with my car in 1953, and it cost \$288 to fix it. My insurance company paid for most of it—all except the \$50 deductible. Can I take this \$50 loss as a deduction?

Yes, unless you caused the accident by your willful negligence (drunken driving, for instance). You can't deduct money you paid for damages to property because of your negligence, and you can't deduct here for costs of personal injuries, although you can claim them as medical expenses.

Someone stole my saxophone from my parked car; is this loss deductible?

Yes, articles stolen from your car are deductible. In addition, stolen car accessories (or the car itself) are deductible, providing, of course, your insurance company hasn't paid you for the loss. Other deductible losses (if not refunded to you by your insurance company) include damage to your car from fire, flood, lightning, storms, or freezing.

My car was completely destroyed. How much can I deduct?

From the fair market value of your car just before the accident, subtract the fair market value immediately afterward. Subtract from this figure any insurance or other reimbursement to arrive at your net deductible loss. Be sure to attach to your form a statement explaining your computation.

Business Use of Your Car

You can deduct the full cost of your car's upkeep from your income if you use your car *only* for business. If you use it occasionally for business, you can deduct a percentage for expenses and depreciation. To determine this, estimate the number of miles you drive your car for business purposes and divide by the total miles you drove in 1953; this will give you the percentage of the total cost which you can deduct.

Just what costs can I claim in connection with the business use of my car?

Just about everything: gasoline (including federal tax), repairs and maintenance, insurance, parking and toll charges, washes, etc.

March 1954

CAR OWNERS' TAX CHECK LIST

A. Deduct these whether you used your car for business or pleasure (unless you take the standard deduction allowed by law):

- (1) State gasoline tax
- (2) Car loan interest
- (3) License fees, including driver's license
- (4) Loss from fire, theft, or collision (if insurance didn't cover it)

B. Deduct these only if you used your car exclusively in business or in making your living (pro-rate part of this if you used it also for pleasure):

- (1) Entire cost of car if it wears out in a year; or
- (2) Depreciation
- (3) Loss when you sell your car
- (4) Garage rent
- (5) Gasoline (including both federal and state taxes)
- (6) Insurance
- (7) Oil and lubrication
- (8) Repairs and general maintenance
- (9) Tires, when they last less than one year
- (10) Chauffeur's salary

C. Not deductible:

- (1) Reimbursed accident damage resulting from operation of car
- (2) Cost of new automobile (unless business car is depreciated fully in a year)
- (3) Cost of defending damage suit for negligent driving of pleasure car
- (4) Finance charges (should be identifiable as interest)
- (5) Traffic fines
- (6) Loss on trade-in of a pleasure car
- (7) Travel between home and work

I use my car for both business and pleasure. I take half of my car's total upkeep as a business deduction. Then what about the gas tax on the other half? Is it deductible?

Yes, you can take off state tax (not federal) from the remaining half of your driving, but be sure you show how you arrived at your final figure: attach a paper showing your arithmetic.

How do I determine depreciation expense when I use my car in business?

If you use your car solely for your business, you can take the full amount of depreciation as an expense. To determine yearly depreciation, you divide the total cost of the car by the estimated number of years it will be serviceable. If total cost of the car is \$2200 and its useful life is

estimated to be four years, depreciation of \$550 per year is allowable. Of course, if you use your car only part time for business, you may claim only part of the depreciation as a deduction.

I estimated the life of my car as four years and took depreciation of \$600 per year for two years. Then I traded the car in but only received \$800 as trade-in allowance. Am I out-of-luck as far as the remaining \$400 is concerned?

No. You can claim the \$400 as an additional loss on Schedule D of your return. Conversely, if you sell the car or trade the car at a figure in excess of the amount remaining after depreciation is deducted, you must report the gain in Schedule D.

So sharpen the pencils and go to it. We hope we've helped to brighten the darkest day of the year.

the countess, the cutlass, and the wildcat: a modern fantasy

It's that time of year again, and Detroit's dreamers of the drawing boards have come up with the fanciest show cars we've seen yet

By Don MacDonald

OF COURSE we all know that the charms of the '54 cars had taken shape months before announcement dates; and yet it always takes us by surprise when experimental cars follow right on the taillights of new stock models. As if we needed any reminder, here indeed is time marching on: many dealers haven't even seen their full '54 line, and before our eyes we see ideas sure to become stock eventually, perhaps by next year.

Among MT's nominations for its Hall of Fame: aircraft-landing-type lights for country driving (El Camino); unashamedly revealed mechanical parts (Wildcat); louvered rear window and padding above the windshield (Cutlass); safety belts and exterior oil-cooling fins (Bonneville Special); brushed aluminum roof (Park Avenue); bumpers and structural members of Fiberglas (Granada); radio controls in center armrest (Belmont).

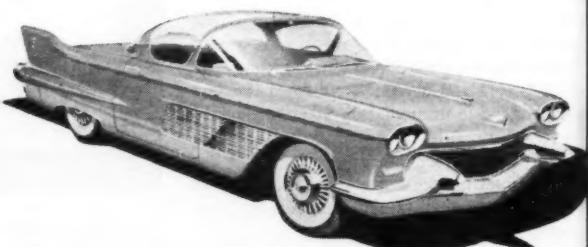
And for sheer madness, how about chrome-plated vinyl seats (in the Nomad)?



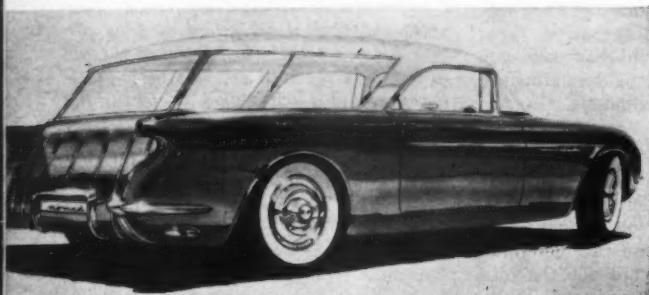
Pontiac's Bonneville Special



Oldsmobile's Cutlass



Cadillac's El Camino



Chevrolet's Nomad



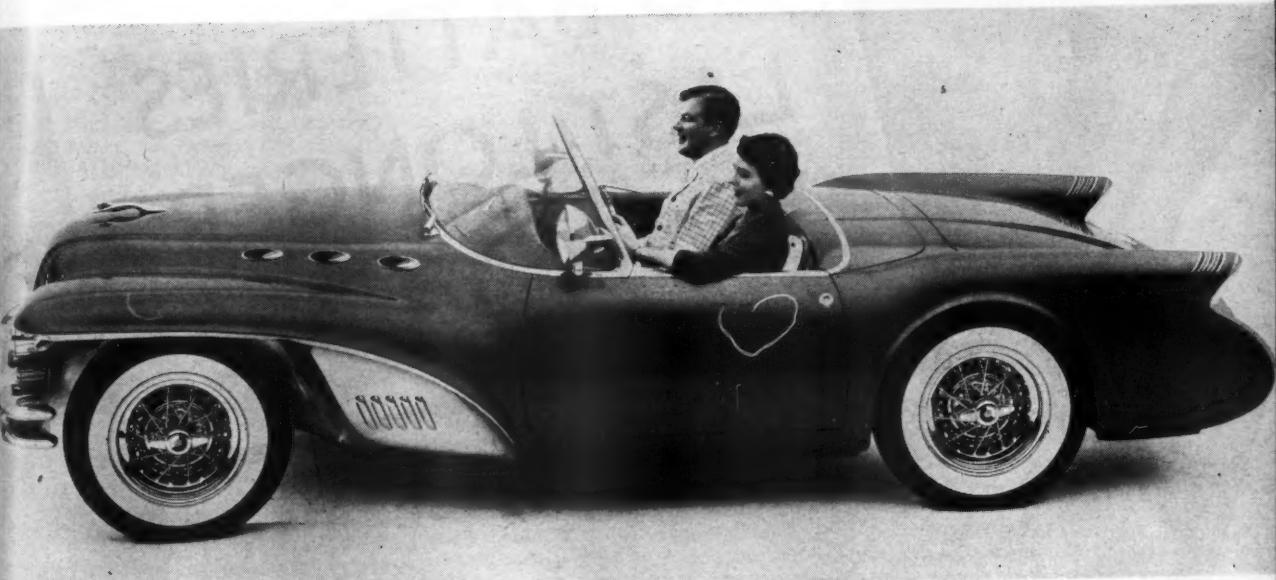
Pontiac's Strato Streak



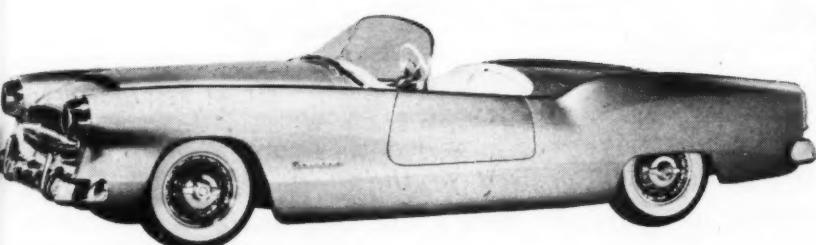
Dodge's Granada



Packard's Panther



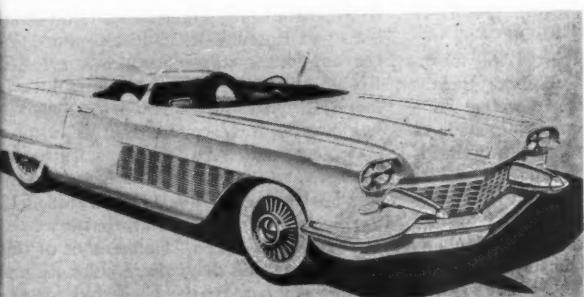
Buick's Wildcat II



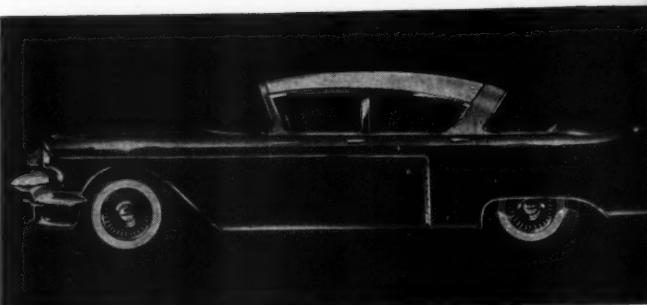
Plymouth's Belmont



Chrysler's La Comtesse



Cadillac's La Espada



Cadillac's Park Avenue

DO BATTERIES LAST LONGER WITH AD-X2?

AN MT RESEARCH REPORT

AD-X2 has been praised to the skies and damned as a fraud. Here's the box score

IF IT'S TRUE that controversy makes for sales, then Jess M. Ritchie will have all he can do to meet the demand for his packaged AD-X2 battery additive for the next 100 years. In fact, he could probably put common table salt in the package and it would still sell to people who want to rejuvenate old batteries or keep new ones young. The only drawback to this unusually promising setup is that people are beginning to ask (just as we did) "What is AD-X2?"

Strange as it may seem, that isn't too tough a question. First, Ritchie's company (Pioneers, Inc.) states that the compound is "a powdered mixture of anhydrous sodium sulphate and a slightly basic,

nearly anhydrous magnesium sulphate." The interpretation of what effects are created seems to be the crux of the lively and continuing controversy.

Taking the words at their literal meaning, "anhydrous sodium sulphate" means a form of salt that is free of water, while "slightly basic, nearly anhydrous magnesium sulphate" means a form of salt that is slightly on the alkaline side and is *almost* free of water.

The National Bureau of Standards has stated: "... Epsom salts and Glauber's salts differ from these substances (anhydrous sodium sulphate and slightly basic, nearly anhydrous magnesium sulphate) only in having water of crystallization.

When dry salts are added to a water solution the result is essentially the same as if proportionately larger amounts of Glauber's and Epsom salts had been added. In the anhydrous state they are not called Epsom and Glauber's salts, but this is merely a matter of terminology."

Pioneers, Inc., countered this with a statement that AD-X2 "... Curiously enough gave different results from sodium sulphate and Epsom salts when added to the electrolyte of the storage battery..."

The NBS rebutted, "Compounds of this character (using magnesium sulphate and sodium sulphate) have been sold for the past 25 years. Hundreds of them have appeared." Any momentary good results

from adding the salts, it seemed, were more than cancelled by "shedding" (deterioration) of the plates and the battery's hasty death.

But, says Pioneers, Inc., ". . . The particular treatment given the salts of AD-X₂ promotes the formation of an active mass in firm contact with the grid, as well as inhibits shedding. Previous additives failed because they induced shedding of the active materials."

What's behind all this? Is AD-X₂ as good as they say it is? Is someone trying to suppress it? Looking back through reams of copy and correspondence and files on the subject, it reads almost like a whodunit. Let's follow it chronologically: *October, 1947*—Pioneers, Inc., develops Battery AD-X₂ with assistance of Dr. Merle Randall, Prof. Emeritus, University of California. For remainder of year, it's marketed in San Francisco Bay Area, Western Pacific, and in Arabia.

April, 1948—Correspondence begins between Pioneers, Inc., and NBS relative to Bureau's "condemnation of all battery additives" and a request to test AD-X₂.

May, 1948—McClellan Air Force Base (Sacramento, Calif.) begins tests of AD-X₂, installing new and old batteries in heavy-duty vehicles and testing over 120-day period; batteries are repeatedly discharged to promote sulphation and tests made against two other types of additives. Conclusions: "Suggest revision of Technical Manual to allow adoption of AD-X₂ for use in storage batteries" and "Results obtained from using AD-X₂ are quite different from that when equivalent amounts of sodium sulphate and Epsom salts are used. The active material remains tight to the grid in a soft condition and there is little shedding of the active material . . ." "The tightness of the active material to the grid results in less gassing on charging, very small bubbles distributed on the surface of the plates, rather than at the location of the grids. This feature is advantageous to the lead-acid battery."

August, 1949—Oakland Better Business Bureau puts out bulletin stating, "Bureau [BBB] investigation has revealed that testimonials offered by [Pioneers] . . . are bonafide, and chemical analysis by a . . . disinterested firm of chemists reveals the product to contain both magnesium sulphate and sodium sulphate, but not in the form of Epsom or Glauber's salts."

March, 1950—Association of American Battery Manufacturers asks Federal Trade Commission to take action on a complaint reaching them from battery company in regard to AD-X₂.

January, 1951—National Bureau of Standards conducts tests and draws conclusion (in Circular No. 504) that battery additives are useless.

Late 1951—Pioneers, Inc., protests publication of test results and NBS condemnation of AD-X₂.

March, 1952—U.S. Post Office informs Pioneers, Inc., that hearings in regard to

fraud are getting under way immediately. *April, 1952*—Jess Ritchie and NBS discuss plans for new tests of AD-X₂.

May, 1952—NBS concludes, ". . . No useful properties of the additive were found, using a procedure which the manufacturer claimed would reveal them."

Pioneers, Inc., protests test results on basis that NBS made 10 modifications from agreed-to procedure and turns to Senate Select Committee on Small Business for assistance.

September, 1952—Meetings held between Pioneers, Inc., and Post Office Dept. Decision: sufficient doubt about NBS tests to submit matter to test at Massachusetts Institute of Technology.

December, 1952—M.I.T. submits confusing report, inferring, in part, that: "Highly significant effects are brought about by AD-X₂." On the other hand, results were not entirely positive, for two M.I.T. professors, giving a statistical analysis of the test method, stated, "We have no direct data on interbattery differences when AD-X₂ is added to some batteries and not to others. Nevertheless, it has been established that the addition of AD-X₂ has changed on the average the performance of the individual cells as regards many of their attributes." A professor of physical chemistry, making a statement of supporting scientific authority, wrote, "I would say that the addition of AD-X₂ certainly does have an effect on the behavior of a lead acid battery . . . I cannot say that this effect is correlated with a beneficial action from the standpoint of normal use . . . I feel that the latter can be determined only after the examination and statistical evaluation of extensive field tests."

January, 1953—United States Testing Co. (Hoboken, N.J.) issues test report stating: "AD-X₂ is not harmful . . ."; "During charge [treated] cells . . . give a higher specific gravity reading in a shorter time . . ."; ". . . [treated] cells operate . . . cooler . . ."; ". . . [treated] batteries . . . took a charge more rapidly . . ."; "Less shedding of active material in AD-X₂-treated batteries, with material in a softer condition"; ". . . [treated] cells . . . showed a higher charging efficiency . . ."; "[Treated] sulphated cells . . . were in better mechanical condition (on internal examination)."

February, 1953—U.S. Post Office issues initial fraud decision against Pioneers, Inc.

March, 1953—Select Committee on Small Business asks Post Office to suspend order, which it does, placing it in hands of further hearings.

Secretary of Commerce Sinclair Weeks fires Dr. Allen V. Astin, head of Bureau of Standards, on basis of Bureau's making unfavorable report on AD-X₂ without proper scientific tests and investigations.

April, 1953—On protest from NBS scientists, Secretary Weeks temporarily rescinds firing of Dr. Astin.

Rep. Harold C. Hagen of Minnesota

rises to a spirited defense of AD-X₂ in the House of Representatives.

Rep. John J. Allen of California (representing the Congressional District where Pioneers, Inc., is located) does the same. *May, 1953*—The Philosophical Society of Washington invites Dr. Keith J. Laidler, of Catholic University, to address it briefly on his study of AD-X₂. Dr. Laidler accepts. He is then informed that the Bureau of Standards staff has objected to his subject; the Philosophical Society requests him to change the subject of his talk; Dr. Laidler refuses. The Society's President insists that he withdraw his paper on AD-X₂. He does so, but protests. He then releases to the press his 16-page manuscript of the talk. It is a hard-hitting piece in which he criticizes the NBS tests, saying, ". . . Their conclusion that the material is worthless is, in the face of all the positive evidence, utterly unwarranted. It is moreover my strong opinion that the effectiveness of Battery AD-X₂ in lead-acid batteries has been amply demonstrated by careful experiments of various kinds . . ."

October, 1953—The Senate Small Business Committee releases a complete 785-page report on the hearings.

The Kelly Committee, appointed by the National Academy of Sciences at the request of Secretary of Commerce Weeks, releases its suggestions for improving the work of the National Bureau of Standards.

The National Academy of Sciences releases its Report of the Committee on Battery Additives, headed by Dr. Zay Jeffries, a former vice-president of General Electric. The report is decidedly unfavorable to AD-X₂, and finds no major fault with the work of NBS.

November, 1953—Jess Ritchie releases a purple criticism of Dr. Jeffries. Calling him "the Machiavelli of Monopoly," Ritchie announces, "I was slugged. Zay Jeffries held the wake and supervised the burial. However, I'm resurrected. And, I've just begun to fight."

December, 1953—Pioneers releases a "point by point" reply to the NAS report. The Jeffries Committee, it says, made no actual tests, either in the lab or in the field. That is quite true; the point, though, is whether anyone ever expected the committee to make tests. Apparently Ritchie did; the résumé of instructions in the committee's report says that it was "to determine whether additional testing of AD-X₂ is needed." (It decided that it wasn't.) Still further confusion results from a passage in the committee's report criticizing the M.I.T. experiment. "We believe it is possible," says the Jeffries Committee, "to deduce from the data in the [M.I.T.] report that in the majority of the cell pairings it happened that the better cells were treated with AD-X₂ . . ." Pioneers blows sky high at this. "If the reader of the report," it remarks coldly,

(Continued on page 55)



ARE AUTO CLUBS HOKUM?

They have their enemies and their staunch defenders. Here are both sides

By Cliff Prodger

HAVE YOU EVER STOOD, red faced and late to work, by a car suffering with acute ennui, and had your neighbor stick his face over the fence to chide, toothily, "Why don'cha belong to an automobile club, ol' boy? You could just call 'em out to give the ol' battery a quick shot." Or has the same beaming face appeared over your shoulder when you had the auto club's annual bill in hand (with your other bills) and chirped, "Why don'cha save your money, ol' boy? I've never belonged to an automobile club and I've never needed to belong to one."

Aside from the fact that we'd all like to come up with an apt and ready rejoinder to deflate this omniscient character, let's take a look at the pros and cons of automobile club membership.

There are two basic types of automobile club: the independent and the club which has affiliated through a national association. The kind, amount, and cost of services vary between the two types of club, and just as frequently between clubs within each group.

In general, the services include:

Road service and towing.

Traffic and adjustment, which means representation on many traffic citations; also, legal advice on vehicle laws, auto ownership and accidents.

Free maps.

Outing service, which includes map routing, setting up your itinerary, arranging tours, boat and train reservations, auto shipment, and coordinating your trip with:

Hotel reservations, which are planned within your itinerary.

Registration, which is procurement of your annual car license.

Car financing is a sort of frosting that you get in only a few of the nation's largest clubs. The various types of insurance are available direct from the clubs, or through them, at widely varying rates.

The Automobile Club of Missouri is generally credited with establishing the first practical and enduring road service program back in 1915. By the late Twenties and early Thirties most of the major clubs had established road service programs of their own. Today it is undoubtedly the principal service that most clubs give their members. In most motorist's minds, it's synonymous with the auto club.

Just how valuable is road service? It's a question we can't answer for you. The AAA reports that affiliated garages and towing services made nearly 3,500,000 road calls during 1952, the last year for which complete figures are currently available. This represents AAA affiliates' experience only, and it would be difficult to establish a direct relation between this total, calls made by independent clubs, calls to non-member motorists, and those to the entire motoring public. But it is interesting to note that over 13 per cent of AAA calls required a tow car or wrecker—the most expensive type of service. During 1952, AAA-affiliated garages made 26 per cent of their calls to fix tires, nearly that many because of battery failure,

12 per cent to help a car out of ignition trouble and 10 per cent for towing.

There's a variation in the amount of service that clubs will give without extra charge, just as there is in the membership agreement which absolves the club of responsibility under certain circumstances. As a general rule, however, road service and towing have been standardized to cover the member for all towing charges plus roadside labor up to one-half hour within the state in which membership papers are written. The member is expected to pay the approved rate for labor over one-half hour and the usual price for fuel, oil, or replacement parts required to put the automobile back in operation.

There are even greater differences between clubs in the amount of free services the member can get when he is out of his home state. Most clubs provide coverage of roadside services up to \$10. Several of the prominent independents provide this coverage within their own state, but allow up to \$25 for out-of-state towing.

Get familiar with the local club's limitations on road service. Some will refuse free service if you have driven your car into an area that is not a regularly traveled road, such as a creek bed, beach, abandoned or uncharted road, forest, vacant lot, or others. Some refuse service altogether if you've driven onto roads that are dangerous or impassable to towing vehicles because of their dimensions, slides, floods, mud, or snowed-in conditions. In practice, the clubs don't split

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March

hairs. The rules are for the club's protection and are usually waived when the road service job is within reason and when the driver has shown reasonable intelligence in his choice of roads.

On the other hand, several prominent clubs agree to service or tow a member's car regardless of where it may be stuck—unless it's under water. All clubs refuse to pay for pulling out submerged or partially submerged vehicles. After they have been salvaged and put on dry land, they will handle towing.

Technicalities in service agreements may throw you for a loss. Once an automobile has been towed to a club garage or public garage, any further towing is the member's responsibility. Groups without affiliated garages commonly refuse to assume the cost of towing any car that is already at a garage or repair shop or immediately adjacent to one. The clubs with associated garages make an extra charge when the member requests a tow to another repair shop, unless it is located en route.

If you decide to look into club membership and discover that there is more than one club for your consideration, you'll make your final decision largely on the type of service you want. If you do a great deal of out-of-state motoring you may want the maximum allowance for roadside

service. If you rarely travel out of state, another club may give you more local garages and more convenient service.

When a club member obtains service from an authorized garage within his home state, he generally just signs a receipt. When he requires road service out-of-state, or uses an unauthorized garage or tow service within his own state, he must pay charges on the spot. He should request an itemized receipt and present it to his club within 60 days for reimbursement. Virtually all clubs recommend that you call the nearest branch office when in doubt. The office may call a nearby garage or service station, rather than dispatch a distant affiliate. The club protects itself by paying up to, but not more than, what the nearest club service would have cost. In out-of-state cases the same policy generally applies, subject to the club's maximum road service allowance.

The cost of roadside service if you're not a member is up to geography, weather conditions, whether or not the tow car operator has competition in the immediate area, and whether or not you look like a good thing if he's a little short of cash. If you get charged \$15 per hour for labor or as a flat rate for towing, or he charges you \$1 per mile from the garage to the scene of the breakdown, plus

\$1 per mile for the tow to the garage, you may reasonably suspect you've had it.

As a general rule, six dollars per hour labor and one dollar per mile for the tow to the garage only is acceptable. If you are stalled five miles from a garage, but the nearest tow service operator is 20 miles away, he is justified in charging you \$20 for his trip out, at \$1 per mile, plus \$5 more for the tow to the nearby garage. If he decides that he likes your purty blue eyes and charges you \$15 for one hour's work, forget what we said about it's being unfair and keep your counsel.

Many auto club members who feel that they are capable of handling trouble themselves find a sense of security in the club's co-membership cards for their wives. A breakdown at night, or on the highway, can be a major crisis for a woman. Most clubs now write at least one co-membership card for the member's immediate family, at no extra charge. All services available to the original member also attend his wife, son, or daughter.

Insurance is another of the principal club services. Many clubs affiliated with the AAA provide a form of reciprocal insurance which includes fire, theft, and comprehensive, as well as property damage. Since this reciprocal insurance plan is

(Continued on page 50)

The Lone Wolves Say . . .

A woman driver tells her story:

"What shall we do?" cried my bejeweled companion. "That old tire's flat, and it's pitch black outside, and we don't have a man along, and there's not even a phone where we can call the auto club!" With that, she moaned softly and lit a cigarette.

"Do?" said I. "What do you suppose we'll do? We'll change the tire, of course! We're not going to stay here all night like two helpless idiots, are we?"

"Can you change a tire?" marveled my friend. "I always call the auto club. I wouldn't know what else to do."

"Well, you're about to learn." From the trunk I took a pair of garden gloves and an electric lantern. The country road was indeed pitch black, and occasional strange sounds from the underbrush virtually unnerved my companion. But in a matter of minutes the job was done. A lot of good the auto club could have done us, with no phone in sight!

A young husband talks to his wife:

"I don't see how we can afford to join the club, Ellen. I know \$15 isn't big money, but big money is just what I don't make."

"But I'd feel so much better about driving at night, or with Mother . . ."

"Look, Ellen, the auto club can't stop things from happening to the car. All it

can do is make a minor repair or tow the car away. Things don't go wrong with the old bus very often. When it's something small, it only means a couple of bucks, not 15. And if it's something big, the club won't pay for it anyway. If we had the extra money, I'd say sure, but we just don't . . ."

A sports car buyer tells his experience:

One of the big things I had heard about the auto club was that I could finance a new car through them at quite a saving. I suppose it was foolish of me, but I decided to buy an MG before I checked with the club. So now I'm paying regular interest charges—the club won't finance foreign cars! I can do minor repairs myself, and I like to pick my own garage for important stuff. Why should I tie myself up with an outfit that tells me what garages I can go to? No, I don't belong to an auto club. For me, it would be throwing money away.

A father of three reports:

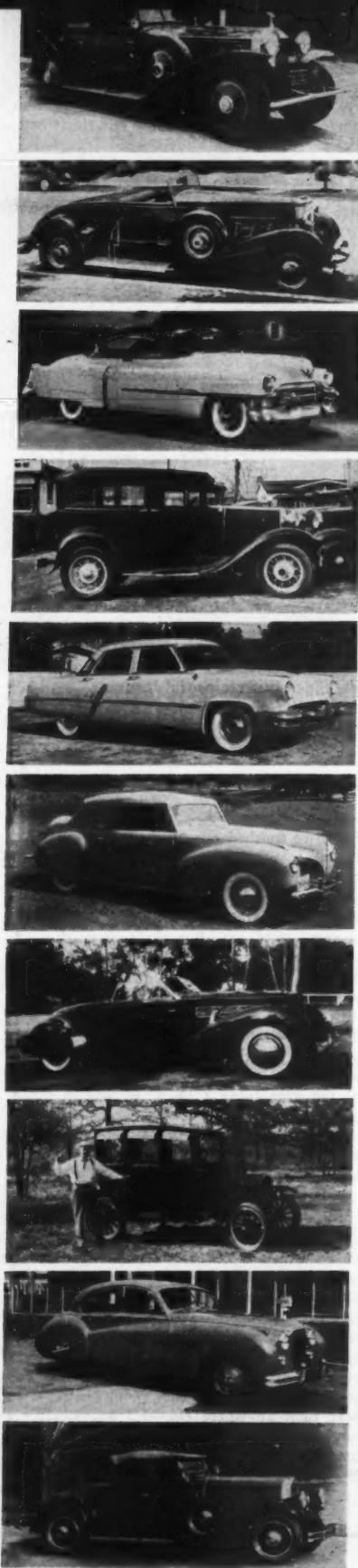
So there I was, with the picnic lunch all spread out in the shade. Suddenly one of the children cried out, "Daddy! The car is sinking in quicksand!" Fortunately, that wasn't quite true, but it was thoroughly stuck in soft earth that had looked perfectly solid when I drove into the mountain meadow.

After we finished our lunch, I told my wife not to worry: the club would take care of it in no time. That's what I thought! I got the club's garage on a nearby phone, and they were very polite and came right out. But the tow truck driver said, "Sorry, Mister, I'll have to charge you for this one. You shouldn't have driven down here off the public roadway."

From his self-satisfied look, I gathered that I wasn't the first city slicker to fall into that pretty trap. I blew my top, and the next thing I knew he was demanding his money before he pulled the car out! What did I do? I paid—and forgot to renew my club membership when the bill came around!

A retired schoolteacher says:

Yes, the club maps are good. But so are the maps of any big oil company, and they don't cost you anything. Besides, one of the big things about a trip is meeting new people. When I want to know who settled a place, or the prettiest road to the next town, or where I can get a really good meal—not just clean food, but something they cook better there than anywhere else—I'll ask local people, thank you! You miss half the fun of traveling if you don't hit the little out-of-the-way restaurants and hotels. I can do better by myself!



Not all MT's contestants agree that the Rolls-Royce is the

BEST CAR in the WORLD

NOT LONG AGO we asked you to tell us your choice for the world's best car. Your response was wholehearted. It surprised us as well, for among your hundreds of letters were some highly individual choices (like the Chadwick!), along with the popular ones.

What car was first? Well, we might have guessed it would be Rolls-Royce, whose famous slogan was also the name of our contest. Close behind was the sainted Duesenberg SJ. Third place was a tie between (of all things!) the '53 Cadillac and the Model A Ford. Fourth was a four-way tie: '53 Lincoln, Lincoln Continental, '37 Cord, and the Model T. Jaguar's Mark VII saloon (contestants were emphatic that this was the model they meant), and the late Pierce Arrow fought fifth spot to a draw. Much farther down the list in actual votes were such revered marques as the Doble Steamer, the '34 Packard Super Eight, the '32-33 Cadillac, and the '34 to '36 Ford. Hudson's Hornet and the Mercedes 300-SL were neck and neck far down the line; so were the Stutz Bearcat and the almost-holy Bugatti Type 35.

Now for the 10 winners of \$25 U.S. Savings Bonds, whose choices didn't necessarily jibe with the winning cars. First was Robert Stone, of Hollywood, Calif. "Best," he wrote, "means different things to different people. I think that in the opinions of the vast majority of auto owners, the most desirable characteristics are economy, low maintenance cost, and driving ease, combined with a generous measure of performance. Should a car which satisfies these requirements also possess luxury, a pleasing design, and pride of ownership, it deserves to be ranked Number One. Because of these things, I believe the '53 Cadillac is the Best Car in the World."

"The Jaguar Mark VII," said Charles Silversmith, of Brookline, Mass., "has unequalled internal and external fittings, a body design of unusual good taste, and sleek appearance; it has an engine that has probably won more races in its class than any other postwar car; it has superlative weight distribution, perfect suspension and chassis design for ease of maneuverability (without power steering)."

Here are some of the reasons that James A. Lundquist, M.D., of Fairbanks, Alaska, picked the '34 Packard Super Eight: "The body lines spoke for themselves; no chrome gimmicks were needed. (It had) dashboard-controlled shock absorbers, and an absence of body movement and shock. Performance: high gear was good from five to 100—as good as many new automatic drives. Most parts

were automatically lubricated; accessibility lowered repair costs."

David N. Singer, of Lexington, Ky., sighted at a broader horizon when he picked his winner: "The popularity of the Model T focused attention on the need for good roads; it provided travel opportunities for millions, led to better interstate relationships, improved national unity, and it was the forerunner of our urban living. Cars of today may or may not be better values; if they are, the Model T made it so . . ."

Popularity queen of the contest was also the choice of Willard C. Poole, Jr., of Stamford, Conn.: "Why is the Rolls-Royce Silver Ghost the Best Car in the World? It was solidly built of top-grade materials. It had ample power and speed. It gave a comfortable ride. It had good economy for its size and power. It had excellent handling qualities. It was a thoroughbred in appearance."

R. E. Howe, of Van Nuys, Calif., said that the best car "must combine, in balanced proportions, the very highest degree of all desirable qualities; the qualities of a limousine are not those desired in a sports car; the car combining the qualities for its purpose is the better." What car was Mr. Howe describing? The Duesenberg SJ.

Dreamboat of Robert F. Cochrane, Jr., of Newton Centre, Mass., is the Cord: "Few cars can hold a speed record for 10 years . . . the Cord was never confused with any other automobile; it made you say, 'There goes a real automobile.'"

Abner Doble's expensive steam car was the nomination of L. A. Rear, of Pasadena, Calif.: "It was quiet, powerful, smooth, and smokeless. This car's features (which may be seen again if atomic power is applied to automobiles) rate the Doble Number One on my list."

Charles O. Rick, of St. Louis, Mo., names the Oldsmobile 88, and says: "The world's best car is not an outdated antique or classic. If the older cars had such good features, more of them would still be found on present-day cars."

Last of the winners was Steven Chaly Jr., of Cleveland, Ohio: "I doubt if there is any one car built to date that will qualify as best . . . The best thing that ever happened to the automotive world is mass production. It has brought within reach the wonderful luxury of owning an automobile, and it has created the armful of vehicles in which you search for the 'Best Car in the World'."

Our own choice? We think—though it didn't occur to us when we announced the contest—that Mr. Chaly is probably on the track to the fairest answer.

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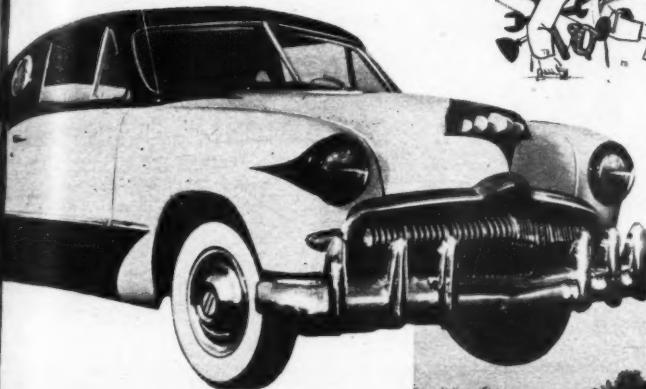
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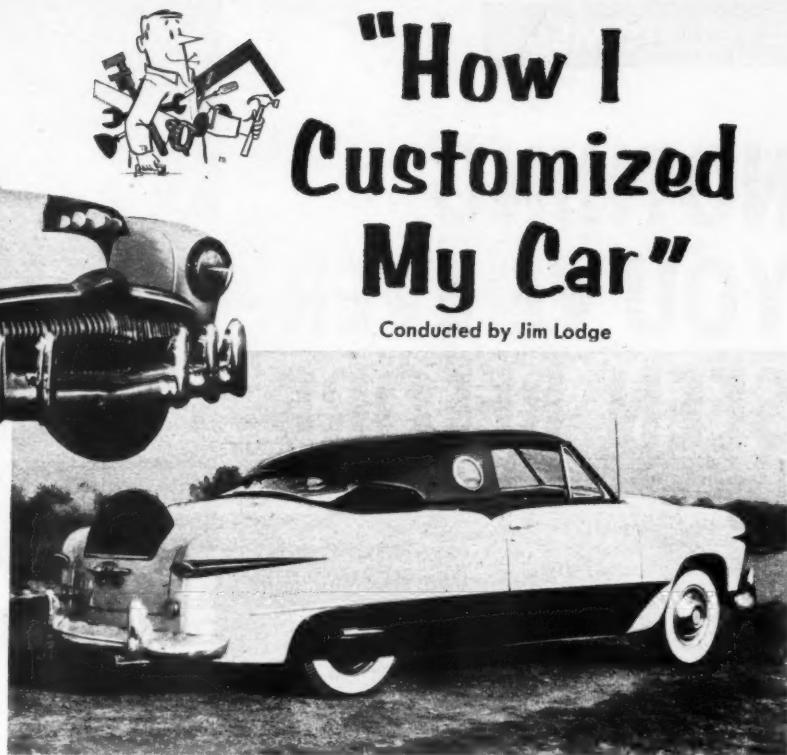
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ALTHOUGH CARS are my business (I own an auto body shop in Hartford, Conn.), they are also my hobby. I built my first custom car last year (a '50 Ford convertible), and it won first prize in the custom class at the Second National Auto Racing Exposition in Hartford. That gave me incentive to do more and better things with cars. I'm now customizing a '50 Crosley and a '40 Mercury convertible sedan, but while they're being finished, I take pride in showing my '49 Ford custom, which has taken first prizes at auto shows in West Hartford and in Providence, R. I. The most noticeable features of this car are its 16-coat, two-tone lacquer paint job, and its



PHOTOS BY HANK MURPHY

removable steel top. A handmade, finned aircoop is mounted on the dechromed hood, and discarded headlight rims form the ports in the metal top. The car has been lowered three inches, and custom-made fender skirts add a finishing touch.

The interior has a marbled dashboard, bucket seats, and a glove compartment-armrest between the seats. Working only part time, I completed the car in 18 months for \$5500. — Frank S. Maratta, Hartford, Conn., as told to Hank Murphy.

WHEN MY CAR was customized, I never realized what an attention-getter it would be. Everywhere I travel along the East Coast, I receive favorable comment from everyone who sees the car. When I stop, people gather around and ask what make it is, how it was built, etc. In case some MOTOR TREND readers have seen my car and wondered,

I'll tell you all about it. First of all, it's a '50 Pontiac. The customizing was a fairly extensive job. The hood was shaved, filled in with a section from a '40 Ford top, and dropped three inches to meet the reworked '48 Buick grille. There's very little other chrome.

The rear deck is dechromed, and the gas filler cap is now located in the trunk.

The rear fenders are tipped with '51 Mercury taillights. The body is dropped with two-inch lowering blocks for a long, low appearance. All body work was done by welding and reworking the metal. A striking yellow and red interior provides contrast to the black lacquer paint job and black convertible top. — J. K. Crouch, Charlotte, N. C.

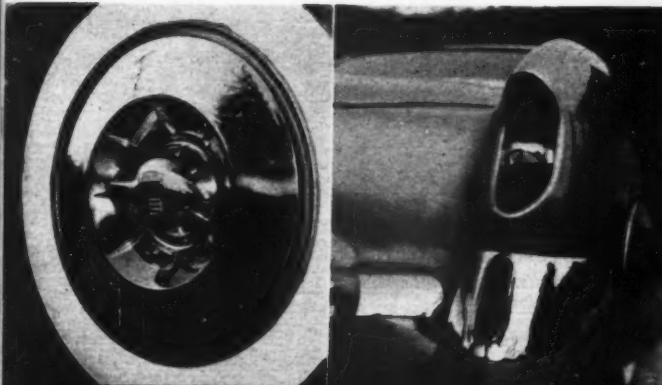


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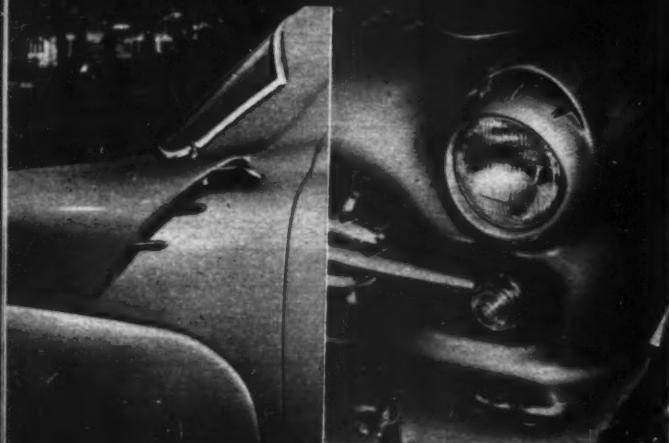
NOTHING YOU'VE EVER SEEN BEFORE

Photos by Tom Medley



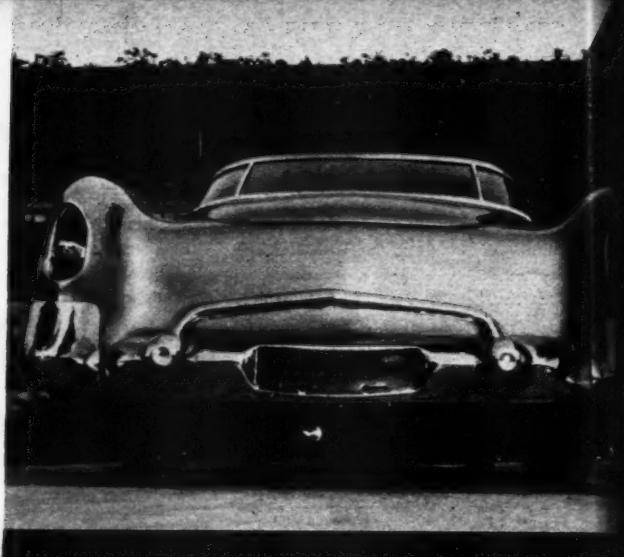
Once Cadillac discs, these have knock-off-type hubs and chrome bars to give look of wire and disc combo.

Taillight lens retires to background, yielding spotlight to new-type "bumperette" with integral pipe



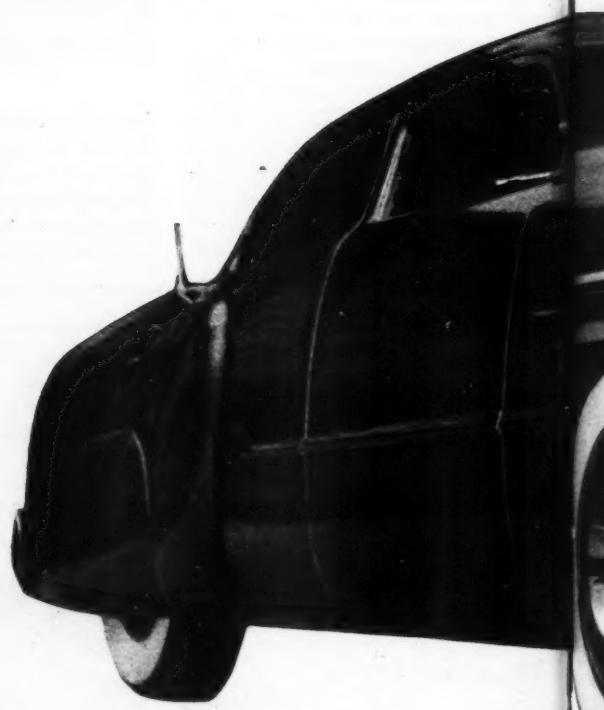
The chromed claw motif reappears throughout the car, here tangling with sharply raked radio antenna.

Claws grace the hood scoop and smaller ones top the lights. Grille is now-conventional "floater."



Deck lid, bobbed version of stock Stude, is a design feature because it doesn't fit flush. Note three-part bumper.

TO IDENTIFY THIS, YOU'LL

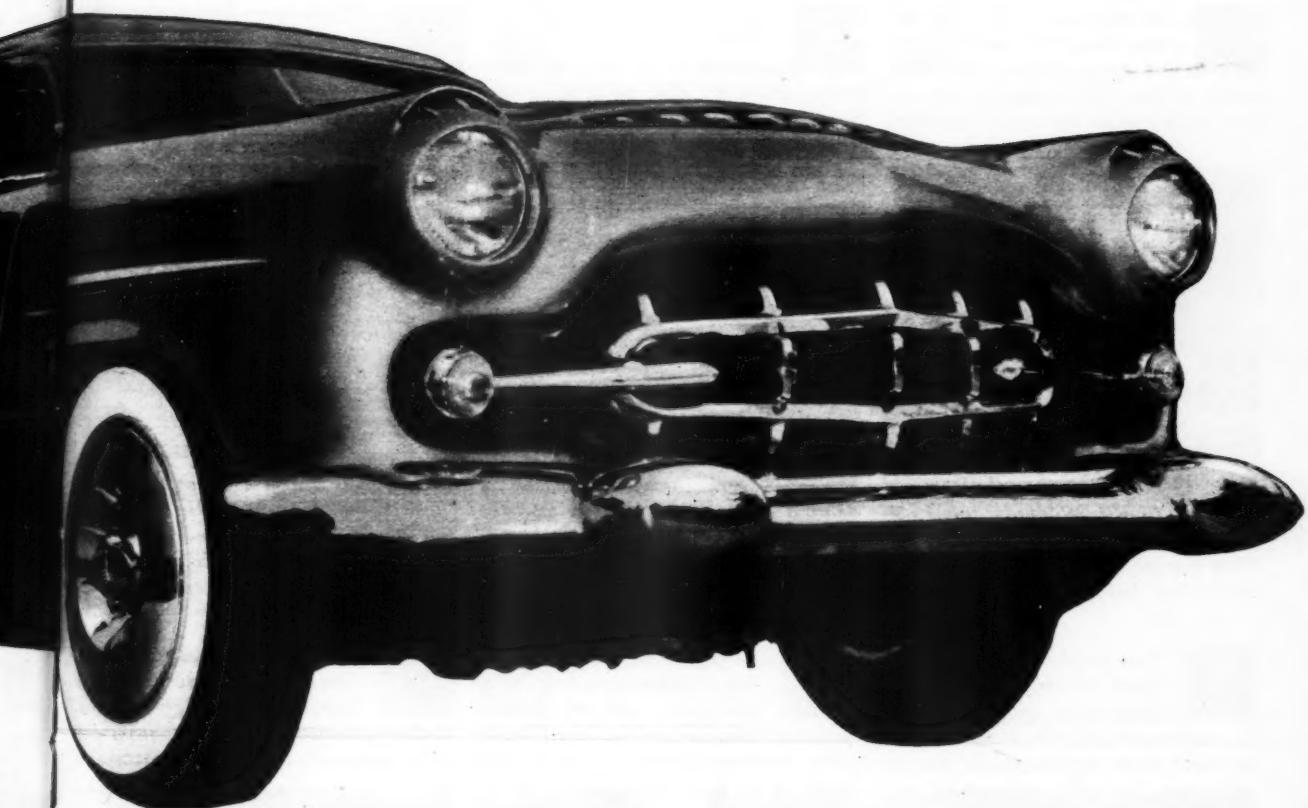


THIS IS NOT the kind of car to disappear in. Some customs, inconspicuous in gunmetal or maroon, depend on the onlooker's inevitable double-take to deal him the double-whammy. But this Studebaker, into which George Barris has poured ideas distilled from dozens of "Kustoms," hits you in the eye from any distance. It's an incredible golden-lime color,



sign fe Studebaker appears to have grown several feet longer, although actual increase is small. Horizontal chrome moldings, Spartan door panels, and radically lowered windows help keep the giant rear fender from getting out of scale.

U'LL NEED A DOUBLE TAKE. THEN, YOU MAY NOT BE RIGHT



more like a modern Christmas tree ornament than anything that ever grew on a tree. It's way low down, and the way it has been redesigned makes it look even more so. Points where Detroit could learn from customizers: the deck lid, which needs no handle or chrome trim to help its pleasing shape; the windows, with chrome trim held to a bare minimum, even

on the vent panes; the three-piece rear bumper, which avoids too many compound curves by using different parts for different functions; the wheels, which give a play of light similar to wire without the cleaning problem. Point where customizers could learn from Detroit: Better vision (pioneered by Studebaker) should be retained while customizing.



14-HOUR SPORTS CAR

Want your own sports car? Perhaps one of the new bolt-on kits is your answer. This is how you'll put it together

A Photo Story by Robert Lee Behme



It's Saturday, 9 a.m. At home, Bert Newport's plastic sports car kit is waiting with three trusty helpers. At a nearby car lot, Bert (right) picks up a solid '39 Ford



Bert's three helpers have installed a chain hoist on the branch of a tree, and Bert drives under it. They take off grille, hood, radiator, and then the V-8 engine



While two others remove engine bolts and unhook the transmission, Bert and helper jack up the front end and remove the axle assembly. They keep it in one unit



Now they wheel the front end to the Wildfire's frame, already high on concrete blocks. They use stock shackle bolts from the '39 to bolt spring to the cross-member



Special brackets, standard on the Wildfire frame, take the stock rod ends on the new radius rods. Time goes fast because two jobs are often going on at one time



Rear axle and driveshaft roll to the frame. Up goes the pickup, and the rear spring gets bolted in position, like the front one, with stock shackles from the '39

Two helpers were busy on the front rubber mounts at the same time, and now the engine is lowered over the mounts and the men bolt it in its place in the new car

They remove the Ford steering column and bolt it to the frame with the bracket provided. New steering linkage (bought from the body builder) is on the post

Necessary new parts of linkage attach to stock linkage with a standard Ford bolt. Ordering necessary new parts from the body builder is simple, means they fit



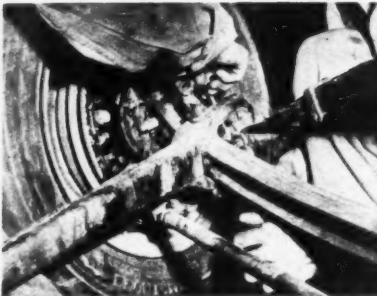
SINCE PLASTICS' introduction, experts have been predicting gigantic changes in automotive design, assembly, and construction. Generally, these changes have been slow in coming to pass, but during the past year several smaller automotive firms have come up with what promises to be a small but important step in the predicted changes.

These smaller companies, faced with a merchandising problem not found in the Detroit branch of the family, were forced to find new ways of selling their cars since it was virtually impossible for them to establish a network of distributors. The most important merchandising answer to date has been the home-assembly kit. It includes the body, floorboard

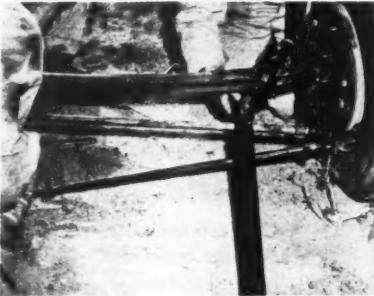
section, windshield, frame (in some cases) and all necessary equipment to convert standard Detroit parts into a sports car.

Their plan works this way: A buyer purchases a sports car kit complete with all necessary non-stock equipment. He then buys a used car of his choice from a wrecking yard or a used car lot. The used car's appearance is not important since the running gear, gas tank, instruments, and if desired the engine are all that will be used.

While there are drawbacks in assembling a sports car from a used car parts supply, many of them are purely psychological. The uncertainty of worn parts bolted to the chassis can be eliminated by rebuilding suspicious ones. Though it is not



Off come stock radius arms, to be replaced with special shorter ones obtainable with the body. The driveshaft also has to be shortened to fit the shorter new frame



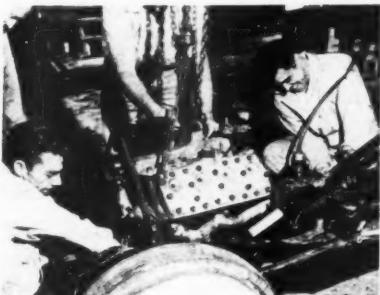
With the mobile "parts department" towed out of the way, Bert and assistants install the new radius arms. Stock Ford steering linkage has not been moved at all



Only hard part of the radius arm changeover is putting back the front spring. With no spring spreader, Bert and his friends make do with jack and wood block



Shortened driveshaft, which came with the body, is bolted in place. The Wildfire's frame is shorter than stock to give better handling. The engine is farther back



After lunch, they wheel the chassis under the tree where the engine waits on the hoist, and drop it into place. Engine alignment is no problem with welded mounts

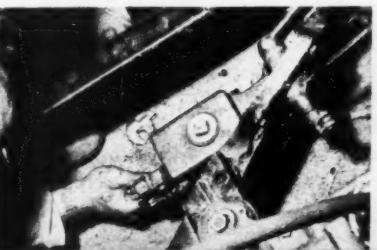
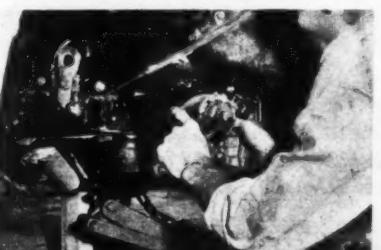


Driveshaft, which has already been aligned with the transmission, is attached. Bert uses the rear engine mounts from the old car; new ones would have been better

Shocks aren't much of a problem. Bert Newport uses the shocks from the old car. You can do the same, get new ones at parts houses, or try stiff ones for road races

Bert and helpers run a sort of assembly line at this part in the proceedings. As each shock comes off the Ford, Bert passes it to another man, who bolts it in place

The master cylinder and pedal assembly go through a frame cutout provided by the builder. All stock fittings and connections are carefully saved for the sports car

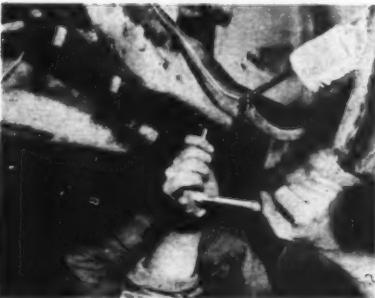


14-HOUR SPORTS CAR continued

essential, most firms recommend rebuilding the differential (including a new pinion gear), the transmission, and the engine. If the car is to be used for road-racing or high-speed travel, most companies also recommend magnafluxing all parts for added protection.

At Norwalk, Calif., car enthusiast Bert Newport wanted a sports car. After considerable budget fumbling, he found that an assembled, production-line car was out of the question. He solved his problem by purchasing a "Wildfire" home-assembly kit and doing the work himself.

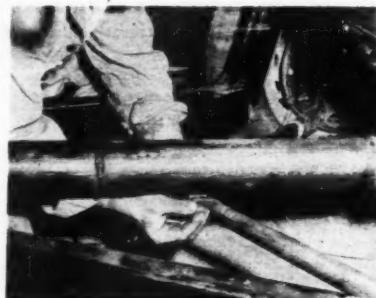
Bert is not a man to procrastinate. Once the plastic car kit arrived, Bert rounded up three local amateur mechanics, and one Saturday the project began. It moved faster than Bert anticipated. In 14 hours' working time, the four men had assembled Bert's Wildfire and the car was romping the streets of Norwalk. During the two-day assembly, *MOTOR TREND*'s camera was present. It recorded the procedure step by step to prove that, while Bert's time was unquestionably fast, almost any backyard mechanic could probably duplicate his efforts during his spare time.



With the gas drained out, all bolts and fuel lines come off the stock tank. It slides to one side and drops through the frame of the Ford, ready to go on the Wildfire



While the tank is coming off, bent and shortened rear radius rods (also supplied) are fitting in the stock spot on the backing plate. There is little heavy work



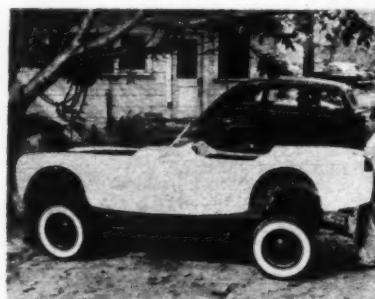
Welded to the shorter driveshaft is a hanger bracket; it comes on the shaft and takes the forward ends of both rear radius rods, holding them with one long bolt



Next, the fuel line. Since the old one was dirty, Bert used it as a pattern for new copper tubing. Only a few bends were needed to make it meet the old fittings



A special Willys conversion is the new radiator, but the old hoses from the Ford link it to the engine. Bert's crew finished up odds and ends and went home at 5 p.m.



Sunday dawns clear and sunny and the Wildfire body, now sprayed with primer, sits lightly on the complete frame. There's still lots to do, but the end is near



The Wildfire body will take either Ford or GM sealed beam units. As wiring nears completion, units salvaged from a decrepit '41 Buick slip easily into new spot



Laminated to the underside of the cowl is a metal bracket to which the windshield frame bolts through ready-drilled holes. Glass replaces plastic windshield of prototype



Used to simplify electrical hookups, the stock instruments are removed from the Ford virtually intact. It's noon now, so the crew takes time out for brief lunch

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These kits have not made any phenomenal advance but they are beginning to take hold. They are sold usually in one of two wheelbase ranges: 102- to 110-inch length for stock Detroit running gear, and 80- to 94-inch wheelbase for foreign cars. Most popular American choice has been Ford, while the foreign selection ranges from MG to Volkswagen, with the short-based American Crosley thrown in for variation.

Several companies are now on the market with these kits. They include: Glasspar Co. (Ford parts), 19101 Newport Ave., Santa Ana, Calif.; Ray Greene Co. (Ford parts), Toledo

9, Ohio); Victress (Ford parts), 11823 Sherman Way, North Hollywood, Calif.; and Woodill Motor Co. (Ford parts), 8640 Firestone Blvd., Downey, Calif. The smaller-wheelbase group includes bodies by Allied Plastics (for MG), 2015 N. Mariana Ave., Los Angeles 32, Calif.; Viking-Craft (Skorpion, for Crosley and Volkswagen), 113 S. Palm St., Anaheim, Calif.; and Vale Wright (for MG), 2204 Grant St., Berkeley, Calif.

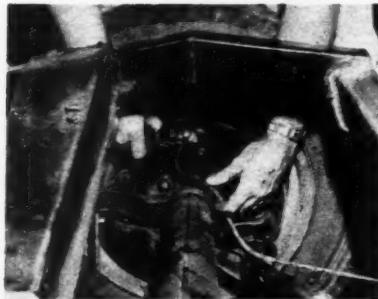
Home-built sports car kits are only one of many do-it-yourself developments in the car field. Watch MOTOR TREND for latest reports on some of the others.



Inset You can almost see the car grow. While the gas tank goes in place at the rear, shocks are attached in time-saving fashion with one man working at each of rear wheels



Inset Simultaneously, front brake lines (either stock Ford or Bundyweld) go in. An amateur needn't fear a job like this; if he gets in too deep, professionals can advise him



Inset With the rear shocks out of the way, the rest of the brake tubing goes in and the hydraulic system finishes up at the master cylinder with no difficulties



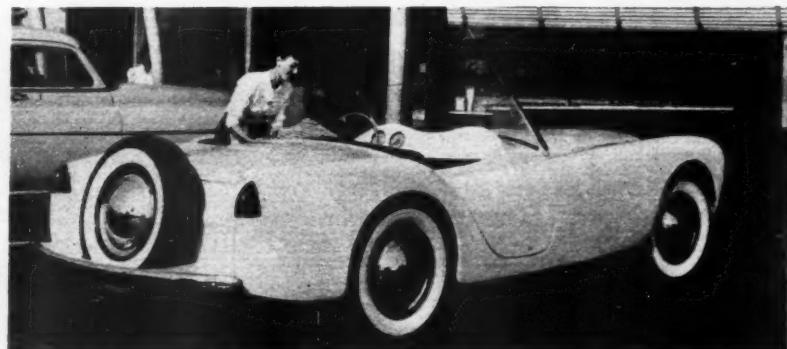
Inset The body is being bolted to the frame while taillights are installed. Stock Willys units on the Wildfire fit the depressions like those on almost all plastic bodies

Inset With the taillights in (but not wired) Newport and helper bolt the rear tire mount and splash guard to the body. Two others are busy inside, attaching the wiring

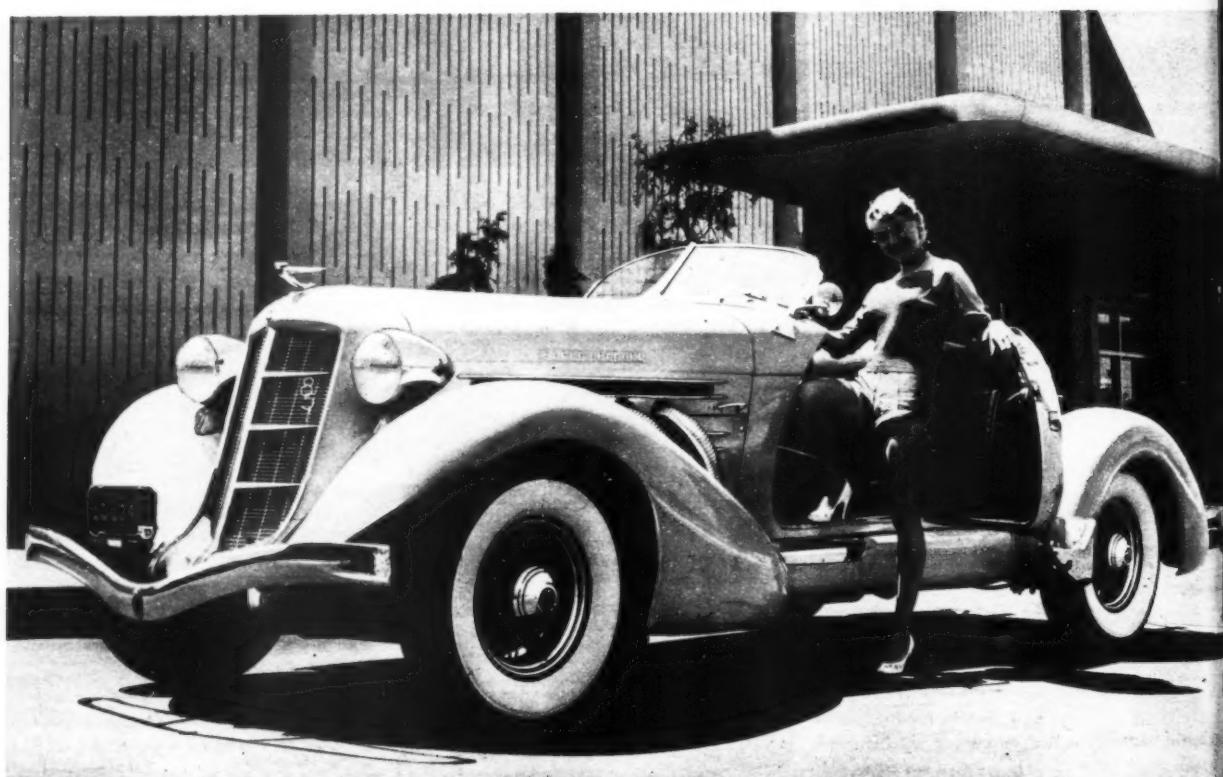
Inset Time for the rear bumper. It bolts directly to the edge of the frame with no tricks. Not from the Ford, though it resembles the stock bumper, it's supplied by Wildfire



Inset With lunch over, Bert fits the Ford's instruments into the Wildfire's dash. Connections and various odds and ends—like connecting the wheel—are finished up



Brakes, wheel alignment, headlights, etc., still have to be adjusted, but Bert's sports car, fueled up, takes him to a nearby drive-in for coffee





A SIZZLING FIZZLE?

The mere mention of the Auburn is sensational. Why did it die?

By Robert J. Gottlieb

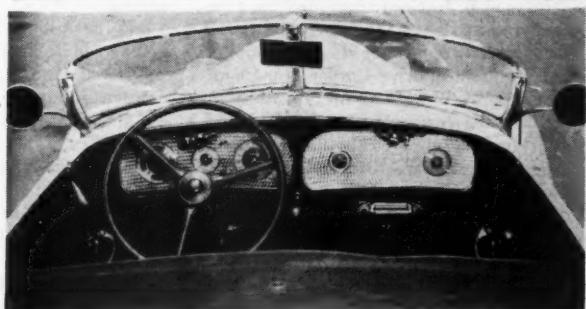
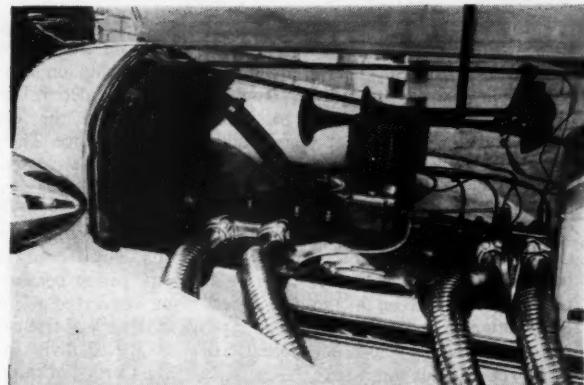
A REMARKABLE ATTRIBUTE of the American public is its ability to rehash an event. Monday morning quarterbacks are in their glory reenacting lateral, pass patterns, and unwarranted penalties. Those who are politically minded are quick to explain past victories and to cover defeats with a series of "ifs," "ors," and "buts." In short, a post-mortem is an American habit conducted with words instead of scalpels and microscopes. It's applied to contingent, uncertain, or controversial events.

Our subject this month is controversial and surrounded by heated argument. Are Auburns classic or non-classic cars? A remarkable number of enthusiasts are Auburn fans, so the cars must have some outstanding qualities. But Auburns were manufactured as competitive medium-priced cars, not prestige cars, and medium-priced cars are ordinarily not classics. Perhaps they were outstanding medium-priced cars with qualities so outstanding that they equalled or surpassed more expensive ones. If so, why were they discontinued? Most Auburns remain unsold at junk prices. Others bring bloated prices. Most Auburns are tankers. Others, such as boat-tailed, open-bodied, and 12-cylinder models, are worth more as classics than they were when new. Why did the

Auburn Automobile Co. die? Did it have to die? Get comfortable, you Monday morning quarterbacks and would-be engineers. We have a situation to discuss!

No chain is stronger than its weakest link, and with too many products the weak link is the financial structure surrounding them. In tribute to the Auburn as an automobile, financial difficulties, frequent changes in administration, and untimely stock manipulations beset the company. This led to weak dealer organization, which played the major part in the downfall of the marque. Without dealers there can be no service; without service there can be no sales. No one can point a finger at an Auburn and say inherent defects caused its death. Auburns were always good cars, though they may not have been outstanding cars. To further balance pros and cons, the company was always progressive (at least as progressive as possible when building cars to a price).

The Auburn Automobile Co. was formed in Auburn, Ind., in 1900 and passed out of existence in 1936. There's some dispute about whether it actually built cars prior to 1902; it did. The 1903 model, the first built in quantity, was known for its dependability: a favorable statement for any vehicle of that era. It was a medium-priced car (\$800) that



Glittering headers made it hard to get to the left side of the supercharged Lycoming L-head eight in the '35 speedster

Dash (chrome over brass) had tachometer, key starter, red light to show low oil level, plaque guaranteeing 100 mph

looked like other contemporary vehicles such as the Autocar. By 1907, the wheelbase was up to 100 inches (considered long for that era), the engine developed 24 horsepower, top speed was over 40 miles per hour, and the cost was up to \$1250. And so the marque developed as a medium-priced line on into the classic era, which most concerns Auburn lovers. Though the company experimented with two-cylinder engines, it produced reliable cars powered with four-, six-, eight-, and 12-cylinder mills during its 36-year history.

The first eight-cylinder car, the 8-88, was built in 1925. It featured four-wheel brakes, unusual steel-spoked wheels, variable-ratio steering, balloon tires, and a reliable L-head engine. Considering the boom of 1925, the \$1695 price was quite reasonable.

In 1927 the Auburn line consisted of the six-cylinder 6-66 series built on a 121-inch wheelbase, the eight-cylinder 8-88 on a 120-inch wheelbase, and the 4-44, a nearly forgotten four-cylinder job on a 120-inch wheelbase. The 4-44 was an interesting little car with a 3 3/8-by-5-inch engine equipped with a five-bearing crankshaft. The bore and stroke of the six- and eight-cylinder engines were identical at 3 1/4 by 4 1/2.

Opposite page: Charles G. Arlington's Auburn glows in 13 coats of cream lacquer, sure of attention wherever it goes

The model 115 convertible phaeton of 1928 was the next interesting one. Its eight cylinders developed 115 bhp at 3300 revolutions per minute. It was mounted on a 130-inch wheelbase, the cost was \$2395, and it weighed in at 3990 pounds. The public took to the car. As a prestige booster, a limited number of custom cabin speedsters appeared on the same chassis. The speedster (it had an enclosed body) developed 125 bhp at 3600 rpm with the basic eight-cylinder engine of the 115. It too was mounted on a 130-inch wheelbase, although weight was down to 3590 pounds. It would clock an honest 108 mph, yet sold for but \$2195.

In 1929 E. L. Cord controlled the company and marketed the famous L-29 as a high-priced companion to the Auburn. The front-wheel-drive Cord was built until 1932, when it died for a variety of reasons, the foremost being the public's reluctance to buy a car it thought was an experiment. During the existence of the L-29, Auburn production and sales dropped steadily. This was due partly to the company's concentrating on the L-29. When it was apparent that the Cord could not survive, the company again turned to the Auburn, and in another of those frantic prestige moves of the Thirties, the 12-cylinder series was born. It developed 160 bhp and was intended as competition for Packard, Lincoln, and Cadillac, as well as the many big cars that disappeared. Even the Twelve held the price line: in 1933 the 12-cylinder standard coupe listed for but \$1145. The big babies were built until 1934, when they too passed out of existence despite such features as free wheeling, dual-ratio rear end, shatterproof glass, hydraulic shock absorbers, automatic chassis lubrication, and a good price. The $3\frac{1}{2}$ by $4\frac{1}{4}$ Lycoming engines were built in a 45-degree V and had vertical combustion chambers and horizontal valves. Production of the eight-cylinder lines continued along with Twelves, but they too lost money.

After the demise of the Twelve in '34, Auburn introduced the now-famous 851 and 852. These cars had 150 bhp, were quality built and cost in the neighborhood

of \$1700. The company also built 85-bhp sixes on a 120-inch wheelbase and 115-bhp eights on a 127-inch chassis. Sales still floundered, the financial outlook was dark, and the coffin-nose Cords came into existence. These aerodynamic classics never had a chance to survive; in '37 the corporate assets were sold to Aviation Corp. Cord bodies subsequently appeared on Hupmobiles and Grahams (see page 16), but this flicker of light also went out, partly because the design could not be converted to mass production. Three of America's most famous cars were buried in the archives of history—the Auburn, the Cord, and the Auburn-controlled Duesenberg.

Did the Auburn have to die? We have already noted that it was always a good car. It was always an interesting car from a design standpoint, so much so that even six- and eight-cylinder coupes are of special interest. The company kept looking ahead in spite of almost constant adversity. It did not introduce many mechanical innovations because it's hard to do that with a competitive price line. Instead, it tried to develop existing ideas by using knock-off wire wheels, dual-ratio rear ends, free wheeling, and superchargers.

When one idea failed, it came up with another. During the company's existence it acquired control of Lycoming Motors and Duesenberg. It hired the finest automotive talent available (Gordon Buehrig, Ab Jenkins, Wade Morton, Alexis de Sakhnoffsky, and the Duesenberg brothers, Fred and August). It ran the gamut from small cars to large cars, and until the last six years gave the public what it wanted. The cars were always considered good looking and were constantly built lower and longer than the competition. Mechanically, nothing was radically wrong. It was a grave error when prestige demands overrode attention to sales. Concentration on the Cord and the Twelve was poorly timed. If that concentration had been directed to marketing a better car at a cheaper price, the company might still be in existence.

Is the Auburn classic? Certainly some models are. On the other hand, many en-

thusiasts are misled on other models due to their similarity to an accepted classic like the related Cord.

What conclusions can we come to? Specification charts, properly analyzed, can be very accurate in rating a piece of machinery. Auburn specifications tell an interesting story, especially from 1920 to 1936. During that era, the buyer's dollar bought more horsepower, wheelbase, and weight in an Auburn than in any other car. In other words, the Auburn was a good investment; perhaps it was the best car that a given amount of money could buy. But remember, it was a medium-priced car, not a high-priced car. The wealthy element wanted hubcaps with insignias used only on prestige cars, not on prestige cars and medium-priced cars alike.

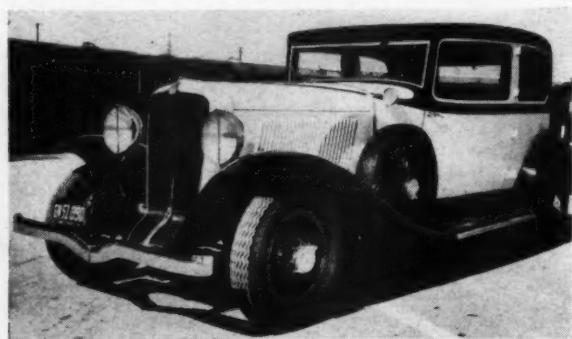
Our combination cover-feature car is an example of the most famous of all Auburns, the speedster, which is definitely a classic. It was outstanding in looks and performance. From a dependability standpoint, these cars were well above average. They were prone to slight bearing troubles, but not enough to worry about. Utility value was slightly greater than that built into the Belanger Special, while ride and cornering qualities would be disappointing to the suspension designers of a Peterbilt (that's a truck, Son).

The car is owned by Charles G. Arlington, of North Hollywood, Calif., and is in perfect condition. It is one of approximately 500 speedsters which sold originally for \$3595 in 1935 and 1936. Aside from their racy lines, the Auburn speedsters had an interesting background. When it became apparent in 1934 that the company could no longer afford to build the Twelve, a frenzied search began for another prestige car. Plans for the coffin-nose Cord were still in the discussion stages. Auburn had acquired control of the Duesenberg, and the speedster body was intended for a baby Duesenberg. But it was felt (correctly, this time) that with the depression in full swing the number of Duesenberg speedster buyers would indeed be limited. The Auburn chassis cost only a fraction of

(Continued on page 63)



Less expensive than the speedster, this '35 convertible sedan had many similar gadgets, including two rear-axle ratios



In '32 a practical family car, this two-door Auburn, was by anyone's admission one of the best-looking cars of the year



Here's How A Simple Device INCREASES POWER, PICK-UP, SPEED and PERFORMANCE up to 10% and Assures ENGINE LIFE Up to 300,000 MILES

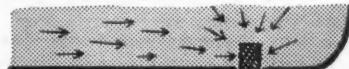
A Chemical-Metallurgical Discovery,

MAGNA-POWER OIL DRAIN PLUG

Neutralizes Corrosive Acids As They Form
In Your Crank-Case

IT'S LIKE A SACRIFICE HIT!

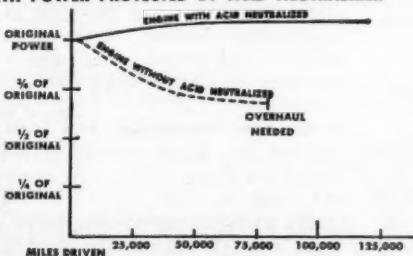
The magnesium-aluminum alloy is made a part of Magna-Power oil drain plug to stick up into the oil in the crank-case to attract and neutralize any corrosive acids there. It will serve this purpose 100% for many thousands of miles. Each time you change oil have the mechanic examine the alloy part of the plug for any signs of deterioration. Chances are there will be a film of corrosion darkening the surface (scratch it with a piece of metal—a key will do—to the bright under body) or completely covering it if large amounts of corrosive acids have been in your oil. Such signs mean that Magna-Power has taken out the acid action that would otherwise attacked the vitals of your engine. You can thank Magna-Power for removing these harmful acids and for keeping the abrasive acid products off the working parts of your engine.



CORROSIVE ACIDS GO FIRST FOR THE MAGNESIUM— BECOME NEUTRALIZED—AND THUS BY-PASS PARTS THEY USUALLY ATTACK

The acids in your engine will eat away those metals that are most easily eaten or attacked. Since magnesium is by far the most easily eaten, acids attack it first and are neutralized or destroyed in the process.

NORMAL DECREASE IN ENGINE POWER COMPARED WITH POWER PROTECTED BY ACID NEUTRALIZER



IMPROVE IGNITION—WASTE LESS GAS

Explosion heat and part of the exhaust stroke keep spark plugs hot for only about a quarter of the time. The rest of the time the plugs are cool enough to be affected by the oil. We know this because the type of oil used has a great deal to do with the deposits on and around them. Acids in this oil eat electrodes, attack porcelain and cause short circuiting deposits that keep the spark plug from doing its job. With corrosive acids neutralized they maintain top efficiency for thousands of miles, which saves gasoline.

Thanks to the Oil Industry for its multimillion dollar scientific researches and processing improvements, almost any of the leading motor oils today will assure fairly safe protection against **FRICITION** . . . What most should concern the wise car owner today is **PROTECTION AGAINST CORROSIVE ACIDS!** That's now proved to be the **Major Cause of Engine Wear!**

STRONG SULPHURIC ACID—YOUR MOTOR'S WORST ENEMY. Today's motor oils have practically no residual acid. Some are even advertised as alkaline to begin with. But gasoline (or fuel oil) contains about one part per thousand of sulphur. One thousand gallons—enough to drive 15,000 to 20,000 miles—may therefore contain the equivalent of about 5 gallons of good strong sulphuric acid. Also present are substantial amounts of bromine (added to leaded gasolines) and chlorine (with the lead), both acid formers. Despite good engine ventilation these destructive acids, in gas or liquid form, find their way into the oil chamber or crank-case. After the first few thousand miles this cumulative corrosive action begins to take its toll—in loss of power, pick-up, speed and performance.

THE ANSWER TO INNER CORROSION—MAGNESIUM ALLOY ATTRACTS AND NEUTRALIZES THESE ACIDS. It is well known to chemical and metallurgical engineers that magnesium and aluminum in proper combination as an alloy will form a dragnet affinity for acids. To clear all corrosive acids from your crank-case oil, what could be more simple, then, than a special crank-case plug made of this magnesium alloy? MAGNA-POWER Oil Drain Plug screws in like your regular plug but the effective alloy metal extends up into the crank-case oil. There, like a potato that draws salt out of water, Magna-Power draws corrosive acids and neutralizes them as they form. (You can see this action for yourself. Drop a MAGNA-POWER into a glass of vinegar or even grapefruit juice and watch the wild effervescent foaming that results.)

YEARS OF ROAD TESTS OVER MILLIONS OF MILES PROVE THE MAGNA-POWER CAN KEEP ENGINES AS POWERFUL AS NEW. As INSURANCE against the need for overhaul for literally hundreds of thousands of miles, no accessory or use of specially made premium motor oils can compare with MAGNA-POWER acid neutralizer drain plugs. Scores of big motor fleets, bus lines, trucking companies and passenger cars have tested them. Their enthusiastic letters are available to you at any time.

INSTALL THIS AMAZING ACID NEUTRALIZER NEXT TIME YOU CHANGE OIL—FOR FINEST—LONGEST ENGINE PERFORMANCE. Magna-Power neutralizer is guaranteed to combat corrosion for at least 100,000 miles! Several types are available for all makes and models. It's simple to install—in a matter of seconds—at any time of oil change after your car's original break-in period of 2,000 or 3,000 miles. Stop rust—stop sludge—neutralize acid with this simple device—and "wear-proof" your engine for the life of your car!

ORDER A MAGNA-POWER NOW—ready for Next Oil Change and Remember Our Money-Back Guarantee is Good ANY TIME. Mail the Coupon below—Today!



A METALLURGICAL DISCOVERY

The base of this remarkable plug is like standard plugs for wrench installation. But the extension above the base is made of a special magnesium-aluminum alloy which is known to neutralize corrosive acids.



Winthrop A. Johns, originator and manufacturer of Magna-Power crank-case plug, is a graduate of Massachusetts Institute of Technology and a member of the S.A.E. He is shown here with his original test car. "I don't expect to live long enough," he says, "to wear this engine to the first overhaul. At the present rate of wear it will run at least 700,000 miles."

A CHECK TEST. Magna-Power plugs have been subjected to road tests in various passenger cars for periods up to fourteen years. Full scale fleet and passenger car testing began four years ago when about 1,500 test vehicles were started. After 147,000 miles in fourteen years the original test engine shows practically no wear and has the same or more pick-up and power as when new. It uses 1 quart of No. 20 oil in 1,400 miles!

JOHNS MFG. CO., Dept. TM3, Dunellen, N.J.

My car is a (make) (year). Please send me a MAGNA-POWER acid neutralizer. I enclose \$2.95. I understand that it is sold with an unconditional guarantee of satisfaction or my money back!

Name.....

Street.....

City..... State.....

HI-COMPRESSION

FOR ALL CARS AT LOW COST

 **WITH NEW PEP & GAS ECONOMY!**

Boost the Compression of Your Engine 1 Point by Installing . . .



COMPRESSION-RISER HEAD GASKETS

Famous new Almquist SOLID-COPPER Head Gaskets are guaranteed to increase horsepower, pickup & gas mileage! Users report 1 to 5 extra miles per gallon! Praised by leading magazines—used in the world over! Special thin .005-.020" gaskets increase compression up to 8.1 or higher—thus are equivalent to milled or custom heads! Genuine Solid-Copper (not laminated or shim). Guaranteed Corrosion Resistant, Blowout Proof. Easy to install!

FOR ANY MAKE CAR, TRUCK, RACER, ETC.

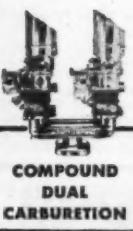
Ford V-8s & Mercs. Set, \$6.95 (Special Racing Set, \$6.95); All other V-8 cars, set, \$7.75; All 8 cyl. Inline Cars, \$8.95; All 4 & 6 Cyl. Cars, \$6.95.



DEALERS WANTED

New DUAL MANIFOLD

"Amazing Acceleration"



COMPOUND DUAL CARBURETION

Fastest & smoothest dual carburetion made—Absolutely no "flat spots"! Increases acceleration and power up to 20%. More efficient because 2nd carburetor does not cut in until after 20-25 mph—thus giving better & faster throttle response at all speeds . . . on less gas! Easy to install. Includes "Compound" Linkage. For ALL CARS—Ford, Chev., Ply., etc. Complete . . . \$12.95

Twin DUAL EXHAUSTS



For Chev., Plym., & All 6 & 8 Cyl. inline Cars Save 50%. SPLIT-MANIFOLD Kit includes Split-Manifold Head Pipe, Dual Side Tailpipes, Mounting Brackets, & E-Z Instructions. Easily welds or bolts to present manifold. Uses Stock or Hollywood Mufflers. Complete . . . \$14.95 (Set with 2 "Steelpac" Mufflers, \$24.95)

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SATISFACTION GUARANTEED

ENGINEERING

Milford 37, Pa.

ALMQUIST

Dealers Wanted

Studebaker Road Test

(Continued from page 21)

Are the Commander's instruments easy to read? Are controls within reach and easy to operate? The new Studebaker's instruments are somewhat low to be read at a glance, but they are clearly marked and well lighted for glareproof night use. The instruments are arranged horizontally in four dials across the panel. This setup, unchanged from last year's model, prompts us to repeat our last year's comment: if the dials were in two rows, they would be easier to read in a hurry. (It's interesting that the lower-priced Studebaker Champion has a more closely grouped, three-dial panel.) The parking brake is handy to the driver, and it's easy to set and release.

MT Research continues to approve of Studebaker's toggle switches. The only suggestion we offer is that the switches could be better marked for "off-on" or "high-low" to simplify things for a driver not familiar with the car. Placed horizontally across the dashboard (just above the hooded instrument panel) the recessed toggles are convenient and safe.

Does the sedan have good all-around vision? Yes, the Commander's wide, one-piece windshield, combined with one of the lowest hoods on any production car, provides an excellent view of the road and both front fenders. Cornerposts are quite thick, but did not rate unfavorable comment from any of MT's testers. The Commander's mirror is wide and allows a broad view of the road behind, yet it is thin enough (vertically) to give unobstructed vision to the right front. This mirror, like those in the '53 Commander and Champion test cars, vibrated badly. At highway speeds it was nearly useless.

How does the Studebaker's heating and ventilating system work? As in last year's car, the Climatizer works well for heating, only fair for cooling. The under-seat heater has excellent output without blasting. The fresh air from the side-mounted "doors" isn't adequate for cooling the interior in hot weather, possibly because the intakes are too close to the road surface. A single simple control operates the thermostat. The vent control is under the right side of the dashboard—it's a long reach for the driver.

Does the new Commander have good performance? MT's overdrive-equipped test car turned in performance data very close to those of the '53 Commander with Automatic Drive. Both cars turned 67 mph at the end of the quarter-mile run, and the averages were only 0.5 mph apart; the '54's time was the slower (20.6 seconds). The new Commander's 4.27 to 1 rear axle ratio gave the car a two-second advantage at 70-80 over last year's torque converter-equipped car, but the cars were

nearly equal in other speed ranges. The '54 test car's 93 mph average top speed was slightly less than the '53 car's, which can be explained by the difference in body styles tested. The coupe has a slightly smaller frontal area and slightly better coefficient of wind resistance.

High clutch slippage when going into each gear was experienced during acceleration tests. If the Commander is to be used in a draft-horse capacity like pulling a house trailer, this should be corrected.

Is the '54 Studebaker more economical than last year's car? The new car had better overall economy. The overdrive-equipped '54, using Mobilgas Special, averaged 22.1 miles per gallon for 30, 45, and 60 miles per hour; the '53 averaged 20.5 mpg for the combined speeds. At 75, the '54 averaged 15.1 mpg; the '53, 14.7.

Has the V-8 engine been souped up for '54? No, the Commander's 120-horsepower V-8, considered entirely satisfactory in performance by MT Research, is apparently considered adequate by the Studebaker Corp. also, for they haven't entered their V-8 in the '54 version of America's horsepower race. It's a typical modern short-stroke V-8 in most every way except that it doesn't use hydraulic valve lifters. Compression ratio has gone up 0.5 to 7.5 to 1. The overhead-valve powerplant rates about average for servicing most components; however, the oil dipstick, one of the points most frequently checked, has been buried under the carburetor air cleaner, in a particularly inaccessible spot near the exhaust manifold. No reason not to buy a car, but why burn your hand?

Does the four-door body style make much difference in trunk size? Yes, the added height of the Commander sedan (compared to the coupe) means a more practical, family-type car. (We say that over the protests of those who may scream "Nuts to practicality—we'll take the coupe for appearance and leave the luggage behind!" We like the style of the coupe better ourselves.) A careful packer should be able to load a great deal of luggage into the Commander's trunk.

Is the new Studebaker well built? If our test car is an example of average Studebaker construction, the comment MT made in June 1953 ("... Later models probably will be built better") has come true. All stainless steel molding was well fitted, and chrome trim was firmly attached; plating was as good as any we've seen since the government lifted restrictions on critical metals. The test car's pastel paint was flawless; workmanship from door jambs to dome lights was good, and all body panels fitted neatly.

Did the car operate well during the test?
The car ran smoothly and quietly throughout the 1100-mile road test. There were no squeaks or rattles when it was all over, and the engine started easily and ran cool, even in heavy, slow-moving traffic and on long mountain grades.

We felt a shudder during low-speed, low-gear acceleration; it was not clutch chatter, but seemed to come from the Studebaker's two-piece driveshaft. Inspection showed nothing wrong, so the vibration may be simply a result of the double-universal driveshaft setup.

The Hill Holder (standard on Commanders and Land Cruisers) was something we missed when we drove other standard shift cars after the Stude road

test. Through a gravity-actuated sliding ball valve in the brake line, the gadget keeps the car from rolling back when you stop on an upgrade (letting up on the clutch releases the brakes). It doesn't operate when you're heading downhill.

Is the '54 Commander sedan a good buy?
The Commander did not impress us as being a car suited only to a particular buyer, for it combines many good features which make it suitable as a family car in general use. It adapts itself to any condition; it's an easy car to drive, it has good performance, and as pointed out earlier, it has top-notch brakes—an item worth considering if you're the type who is as much impressed with stopping ability

as you are with lightning acceleration.

The Studebaker's original cost is not prohibitive—it's one of the lowest priced cars in its popular class (\$2051 to \$2500 list price range). If the resale value of the "independent" cars continues to run true to form, the '54 Commander's value will be reasonably high if you trade it on another Studebaker, not so high on other makes. Its open-market resale value is one of the highest among the independent makes.

The Commander Regal sedan, styled ahead of its time, is a lively car, a pleasure to drive, and because it lacks faults common to many cars, it's a big reason why the medium price class is one of the most competitive of all.

1954 STUDEBAKER COMMANDER (with Overdrive) THE STORY IN FIGURES

PERFORMANCE

CHASSIS DYNAMOMETER TEST

(Checked on Clayton Mfg. Co.'s chassis dynamometer; all tests are made under full load, which is similar to climbing a hill at full throttle)

RPM	MPH	ROAD HP
1200	24	33
2000	40	55
2500	50	65
3100	62	75 (maximum obtainable under any conditions)

ACCELERATION

(In seconds; checked with fifth wheel and electric speedometer)

Standing start 1/4-mile	0.5
(59 mph; 1st, 2nd, 3rd)	20.6
0-30 mph (32, car speedometer; 1st, 2nd, 3rd)	4.9
0-60 mph (64, car speedometer; 1st, 2nd, 3rd)	17.2
10-30 mph (2nd gear)	5.0
30-50 mph (3rd)	8.1
50-80 mph (3rd)	18.9

TOP SPEED

(In miles per hour; clocked speeds over surveyed 1/4-mile)

Fastest one-way run	94.34
Slowest one-way run	91.18
Average of four runs	93.00

FUEL CONSUMPTION

(In miles per gallon; checked with fuel flowmeter, fifth wheel, and electric speedometer)

Conventional	Overdrive	
Steady 30 mph	20.2	24.4
Steady 45 mph	18.0	22.6
Steady 60 mph		19.3
Steady 75 mph		15.1
Simulated traffic over measured course		16.0
Total mileage driven and overall average for entire test	812 miles	@ 16.0

Brake Stopping Distance

(To the nearest foot; checked with electrically actuated detonator)

30 mph	41
45 mph	94
60 mph	159

GENERAL SPECIFICATIONS

ENGINE

Type	V-8, ohv
Bore & stroke	3 3/8 x 3 1/4
Stroke/bore ratio	0.96:1
Compression ratio	7.5:1
Displacement	233 cu. in.
Advertised bhp	120 @ 4000 rpm
Bhp per cu. in.	.516
Piston travel @ max. bhp	2170 ft. per min.
Maximum torque bmmep	190 lbs.-ft. @ 2000 rpm
Maximum bmmep	123.2 psi

DRIVE SYSTEM

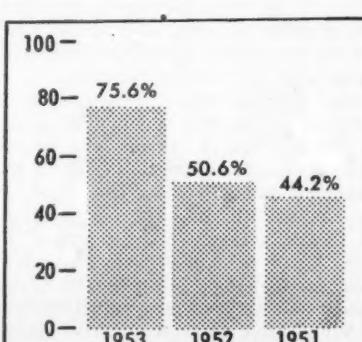
Standard transmission	Three-speed synchromesh using helical gears
Ratios	1st 2.57, 2nd 1.55, 3rd 1.00, reverse 3.48
Automatic transmission	Studebaker Automatic Drive, torque converter with planetary gears
Ratios	Low 2.31, drive 1.43 and 1.00 (direct drive with converter locked out); reverse 2.00; maximum converter ratio, 2.15 @ 1650 rpm
Overdrive transmission	Planetary type with manual lockout and accelerator downshift
Ratios	0.7:1 (overall 2.98)
Rear axle ratios	Conventional 4.09; Automatic 3.54; Overdrive 4.27 standard, 4.55 optional

DIMENSIONS

Wheelbase	116 1/2 in.
Tread	Front 56 11/16 in., rear 55 11/16 in.
Wheelbase/tread ratio	2.1:1
Overall width	71 in.
Overall length	198 5/8 in.
Overall height	60 in.
Turning diameter	38 1/2 ft.
Turns lock to lock	5 1/4 Ross, 4 1/4 Saginaw
Curb weight	3380 lbs. (factory shipping wt. 3120 lbs.)
Weight/bhp ratio	26.0:1
Weight distribution	Front 57.1%, rear 42.9%
Tire size	7.10 x 13
Tire loading	Front 90.6%, rear 68.5%

DEPRECIATION

Percentage of original value retained by similar previous models at time of publication



PRICES

(Including retail price at main factory, federal tax, and delivery and handling charges, but not freight)

	Deluxe	Regal	Cruiser
Four-door sedan	\$2149	\$2257	\$2408
Two-door sedan	2106		
Club coupe	2203	2311	
Hardtop	2472		
Station wagon	2418	2526	

ACCESSORIES

Automatic Drive	\$226
Overdrive	118
Power steering	177
Hill Holder	Standard
Radio	
6-tube	76
8-tube	99
Heater	69
Direction signals	27
White sidewall tires (additional cost per set, 7.10 x 15)	30

ESTIMATED COST PER MILE

(The Estimated Cost per Mile is given for comparative purposes and is not intended as a guide to the cost of operating a particular make or car within that make. To provide this comparison, Motor Trend has selected the following maintenance items for each car tested, regardless of whether or not the car would actually require them during the first year of operation)

Cost of year's gasoline (based on overall mileage of test car) \$174.76
Cost of insurance 141.40

(Includes: \$50,000 and \$100,000 bodily injury liability, \$5000 property damage, \$500 medical payments, comprehensive, \$50-deductible collision)

Maintenance:
Wheel alignment 6.00
Brake lining (front only) 14.48
Automatic transmission 12.95
(adjust, change lubricant)

Major tuneup 10.80

(Labor only; includes: clean and adjust or renew points and plugs, tighten cylinder head and manifolds, clean and adjust choke and carburetor, clean air cleaner, fuel bowl and adjust valves)

First year operating cost per mile (based on 10,000-mile annual average) 3.6c

COST OF PARTS AND LABOR

(These are prices for parts and labor required in various repairs and replacements, provided for a comparison of prices for these sample operations in various makes)

	Parts	Labor
Distributor	\$ 21.50	\$ 2.00
Battery	19.85	
Fuel pump	6.50	1.60
Valve grind	5.40	43.60
One front fender	38.50	22.50
Bumper	49.26	3.50
Two tires	52.46	
TOTALS	\$193.47	\$73.20

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I Drove the Firebird

By Mauri Rose

WHEN I WAS ASKED to drive the XP-21 Firebird, the first question that came to mind was this: How would it feel to sit in front of the engine—and a gas turbine engine at that? Perhaps I'd feel out of place, having spent most of my life as a driver with an engine in front of me.

We made our first run with the Firebird one gloomy, rainy, cold Sunday in November at General Motors' Proving Ground near Milford (Mich.). Later, during the first week of December, we gave it more extended tests on GM's Desert Proving Ground near Mesa, Ariz.

We needed to determine how the car would handle. Thus, when it was "fired up" and ready to go, I headed off the main loop of the Milford proving ground and began maneuvering over the curving, winding roads on level ground within the loop. Following me in a station wagon were engineers from GM Research Laboratories and GM Styling Section—the men who had designed and built the car and the engine. We had a two-way shortwave hookup so I could call off to them the readings from the instrument panel—it was outfitted with 16 dials and meters. They, in turn, could radio me any advice I needed. During this run we cruised anywhere from 15 to 45 mph. just so I could get adjusted to my reaction to the Firebird and the Firebird's reaction to me.

From the moment the Firebird began to roll, I felt absolutely at ease. Any pre-conceived notion that I would feel out of place ahead of the engine vanished immediately. Never did I have the impression the car would fishtail, swerve or swing from one side to another. And it never did—even during later test runs in Arizona.

Within a minute or two after the car was in motion, two other impressions came to mind instantly. First, the steering was absolutely, marvelously true. The car wanted to behave. It wanted to keep going straight ahead. It was perfectly stable. This much of the Firebird's conduct, no doubt, could be attributed to the design of the front suspension, the double wishbone with torsion bar spring. Also, the car was perfectly balanced with virtually a 50-50 weight distribution.

Next I noticed the utter lack of vibration. As an engineer I was well aware of the fact that a turbine, with no reciprocating moving parts, probably is the smoothest power package in motion. It is. The smoothness made me conscious of the car's chassis and suspension. In other words, the lack of vibration—vibration was something I had become accustomed to in years of race and test driving—left me free to think of other things. It was like being accustomed to work-

ing in a room with a clock ticking—and then having the clock stop completely.

The Firebird had traveled only a short distance when I noticed also that I would have to "tune in on a new range," so to speak. Much of this feeling probably was psychological. Nonetheless, a turbine-driven car has characteristics definitely different from a piston-engine car. The engine idles at 8000 rpm, but one can control the car at any speed from zero on up. However, the car continues to cruise right along when you close the throttle. Compression deceleration isn't there.

I had to learn to coordinate my reflexes and reactions with the forward movement of the car. This, largely, was a matter of gently tapping the brake and fuel control treadles, sensing how the Firebird would respond to them.

Obviously, a gas turbine with 370 horsepower propelling a car weighing about 2500 pounds puts a considerable responsibility on the driver's shoulders. He has absolutely terrific acceleration at his disposal. Thus, I realized early in the test run that my main job would be to concentrate on the road ahead and calculate stopping distances for safe operation.

These mental adjustments can be made quickly. Once they're out of the way and out of mind, the driver of the Firebird can sit back and let the car guide itself. Its inherent stability makes it easy to handle.

Throughout much of the rest of my maiden trip in the Firebird I concentrated most of the time in trying to let the engineers trailing me know—via shortwave—what was happening so far as the engine was concerned. They, admittedly, were interested in such meter readings as the nozzle pressure in the engine's burners, the fuel pressure, the turbine nozzle box temperature, and in my other mental notes.

What we couldn't communicate by radio, we discussed in countless bull sessions whenever I stopped and crawled out of the cockpit. We would rehash every trial run of the proving ground loops like a congregation of football coaches.

At Arizona we spent more than a week, simply turning the car around the track and the mile and a quarter straightaway that bisects the ground's five-mile circle. Our purpose was to continue getting the feel of the car and to check performance.

Overall, my major impression of the gas turbine car is that it has very responsive acceleration. Moreover, the Firebird at the same time has equally excellent braking, even at good speeds. The braking never threatens to swerve or spin the car. The steering is light and very positive, and the ride is vibrationless, extremely easy.

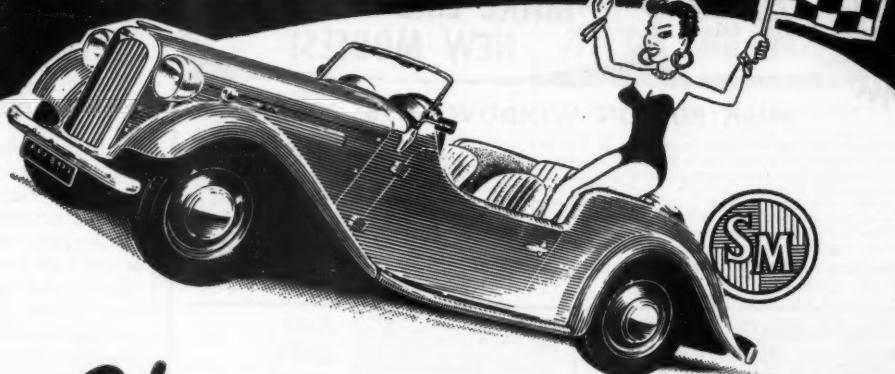
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Are Auto Clubs Hokum?

(Continued from page 33)

set up and operated by the club as a non-profit corporation, there are no stockholders and no stockholders' dividends, and these savings are passed on to the insured at year's end (after the club's loss has been determined) in the form of a refund. Contracts for public liability (bodily damage) are generally written by a capital stock company. Many of the AAA affiliates provide necessary information or make desk space available for the insurance company representatives who actually write these contracts. Adjustments, in the event of a judgment against the in-

sured, are made directly with the capital stock company.

Independent motor service groups and some AAA affiliates make available insurance covering fire, theft, comprehensive, property damage and public liability, all written by a capital stock company broker. Some of the smaller clubs do not provide insurance at all and do not arrange member contact with an insurance company broker.

Traffic and adjustment is court representation of the member who has received a traffic citation. It is surprising how many

motorists refer to this service as "ticket fixing"—one of the most popular misconceptions of club service. The club does not regard traffic citation representation as a convenience which in all cases keeps the member out of court. It is designed to remove some of the inconvenience accompanying minor traffic violations, but only in those cases where the fine itself can be considered warning enough. When a member becomes involved in charges of drunken driving, excessive speed, or reckless driving, the club agrees if the court refuses bail and demands an appearance.

Traffic and adjustment representatives operate on a nationwide level. Through use of a bail schedule book which lists the various violations and the amount of bail for each, they have eliminated much of the unconscionable gouging that was done by unscrupulous justices of the peace in certain areas of the country. With first-hand knowledge of where and how these backyard bailiffs operated (and still operate) the clubs have brought pressure at county and state levels, almost invariably with results.

All clubs which have affiliated through the AAA, for example, retain the right to determine their own general policies regarding services. At AAA headquarters in Washington, D.C., and at state offices maintained by the Association where no affiliate club operates, services are available to none but members. But many of the affiliates will give maps and road and weather information to non-members as well as offer the services of their outing departments. The same is true of many independents.

The outing department helps the motorist plan his travel itinerary, arranges sightseeing tours, makes boat and train reservations, and handles the overseas shipment of an automobile. No service charge is made to members or non-members, since these departments are reimbursed in the same manner as travel agencies—by commission.

Hotel reservations are restricted to the membership, since responsibility is involved and the service is supported exclusively by club finances. The AAA also endorses motels and restaurants after periodic inspections show that they meet stringent requirements in cleanliness, comfort, and quality.

A handful of the largest independent clubs and AAA affiliates will finance new cars for their members, but they generally do it on a small scale. The club handles the papers for only those buyers with extremely good credit and business references. If the member can qualify under the club's scrutinizing squint, he will pay an interest rate lower than that of bank rates. The club usually asks only four to five per cent interest. Bank rates average about six per cent.

How much will membership cost you? Dues range from six to 18 dollars annually, depending on how many services the club

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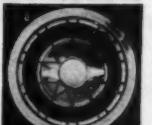


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renders. When clubs run the gamut of services, dues will average between 12 and 15 dollars. This fee may include your subscription to a club publication.

"Auto-club membership is like insurance," say its proponents. "You should get it while you are young and keep it all your life. Unlike insurance, you can enjoy its benefits while you're still alive. Anyone who travels should find the club's touring information, maps, road, and weather reports valuable in planning and enjoying vacation trips. Since my membership entitles my wife to club privileges, I know that she is safe if she has engine

trouble. I like the tremendous public service automobile clubs have rendered in the fight for better roads, in conducting safety campaigns and in protecting motorists' rights in all spheres of political action. For these last reasons I will keep my membership card active—even after I'm too old to drive."

We may never come up with a fool-proof answer for that toothy neighbor of ours who qualifies as the world's busiest second guesser. But here you have both sides of the automobile club story. Where do you fit into the picture?

—Cliff Prodger

What's Your Idea?

A two-year subscription to MOTOR TREND (or a two-year extension to your present subscription) is yours if we pick your idea for this column. Send it to "What's Your Idea?" Editor. Sorry, we can't return submitted material.

I WANTED a back window defroster for my '53 Mercury, but I figured the kit was too expensive. I installed my own idea at about one-fifth the cost. Here's how:

I purchased a used defroster out of a '47 Chevy. Removing the water unit, I installed the blower under the package shelf on the back seat rest braces. The metal defroster outlets were installed on the underside of the shelf. Taking a sharp knife, I cut a slot in the cardboard covering and connected the blower to the outlets with hose. I installed a table-operated backup light switch on the side of my car heater and connected the cable to the windshield defroster cable. Thus, when I turn on my windshield defroster, my back-window defroster also turns on. *Evert L. Knight, Springfield, Ohio.*

MANY CAR OWNERS I know have complained about accessories on their cars being stolen. Here's a simple solution that I have found to be very effective: simply fill the screwheads (attaching the accessory to your car) with solder. This sends the would-be thief away baffled. *Buddy Harger, Baton Rouge, La.*

THE DANGER of changing flat tires on the left side of the car can be lessened by using the large hubcap as an added helpful reflector for passing traffic. Place the hubcap against any object or on a bent-wire clothes hanger facing the rear traffic just back and out from the person changing the tire. It may save your life! *Richard Pelly, San Pedro, Calif.*

I HAVE HAD TROUBLE with manifold heat control valves sticking on nearly every car I have owned. After trying every remedy I ever heard of without lasting success, I finally tried one of my own.

I applied fine valve-grinding compound to the exposed ends of the shaft. (With the manifold hot the heat melts the grease base of the compound and carries the abrasive right in where it is needed.) I then manually

March 1954

worked the heat control until it freed up to my satisfaction, washed the abrasive out with kerosene in a squirt can, applied a shot of graphite-base, heat-resistant oil (Pyroil A), and the control hasn't stuck since. Several of my friends have now tried this method with complete success. *Evert L. Knight, Springfield, Ohio.*

SOME OF THE MOST common rattles are located in doors. Most of these develop in the window lifts and remote control latch mechanisms where two moving parts are joined. These are easily remedied by use of plumber's graphite string. Wrap the string between the parts to make a snug fit. Easy operation of the mechanism will be retained because of the lubricating properties of the graphite string. The string can be obtained at any hardware store. *R. E. Willen, Spokane, Wash.*

HERE'S AN IDEA for repairing rips in convertible tops. I repaired a three-foot rip in a top that was two years old at the time. This repair was still intact 1½ years later when the car was traded.

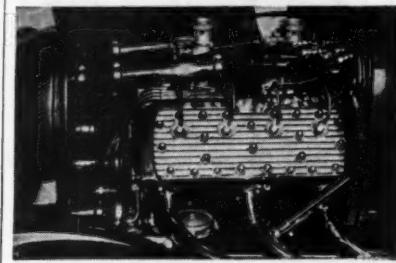
All you need is a flatiron, a pair of shears, and iron-on-tape strips. The latter can be purchased at any 10-cent store in various lengths and widths. Size should be selected to give a minimum of one-inch overlap on each side of the tear.

To perform the repair, trim the edges of the tear if they are rough, removing the least amount of material possible. Then pull the edges of the tear together, placing the iron-on-tape strip in position on the inner side of the top. Seal tape in position, using a hot flatiron. Iron carefully to avoid wrinkles in the tape or top material. Repeat this operation on the outside of the tear, making a double patch. If the tape isn't the desired color, it may be painted with any good top preservative.

Result: a neat and inexpensive repair which might otherwise have been a costly operation. *Joseph C. Stewart, Hamilton, Ohio.*

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Hudson Road Test

(Continued from page 23)

low speed) and expected gear train noise under extreme acceleration, and you have a rumbling chorus. Undercoating or a suitable insulating material would help.

Is the '54 Hornet a good performer?

Rather than go to a new powerplant for more performance, Hudson continues to increase the power in the big six-cylinder engine. With Twin H-Power, the 308-cubic-inch engine does better than many of its competitors. In figures, this power means a 0-60 time of 14.8 seconds, a standing quarter-mile time of 19.3 seconds, and an average top speed of 100.34 miles per hour. By comparison, MT's '53 Hornet test car (160 bhp with Twin H-Power) turned 0-60 in 15.5 seconds, went through the quarter-mile traps in 20 seconds, and averaged 98 mph.

How do the '53 and '54 Hornets compare in economy? This year's car showed an increase in gas mileage over the '53 (we used Mobilgas Special in both). The '54 Hornet's fuel consumption in our constant-speed and traffic checks averaged 18.08 miles per gallon; the '53 test car averaged 15.8. So Hudson can proudly claim a 13.3 per cent increase in economy, along with power and performance gains. A higher compression ratio, Super Induction, and other engine changes are responsible. High-speed fuel consumption was about equal in the two cars, but the '54 showed a noticeable increase in traffic economy. It is about average in its field.

Does the '54 Hornet have good brakes?

MT's Hornet had power brakes with a low-set pedal, which would presumably give a slight edge in braking efficiency over the higher, harder-acting pedal. However, the '54 Hornet's brakes didn't stop as well as the standard brakes of the '53 Hornet. After repeated stops, the brakes faded badly and grew noisy. They were allowed the usual time to cool off between checks, but the brakes apparently didn't recover fully and gave an average stopping distance of 115 feet, compared to last year's 104-foot average. The '53 and '54 Hudsons are not the first pair we've tested that have shown a difference in braking ability even though both cars weighed approximately the same and had supposedly identical brakes.

Hudson's power brake system is the treadle-vacuum type; stops can be made with an absolute minimum of pedal pressure. The Hornet's brake pedal action was very evidently that of a power brake.

Is there anything new about the Hornet's interior? Hudson has made a great improvement. The antique-shop feeling is gone, and while the new Hornet's interior is still quiet in tone and as well finished

as before, it is more livable, and decided more attractive. Fabrics (good-looking whipcord-worsted nylon, combined with leatherlike plastic trim) are top grade and workmanship is well above average. The '54 Hornet is equipped with courtesy lights at each door, and has lights mounted at the rear of the garnish molding adorning behind the back seats, and another above the windshield. It will find few peers in interior treatment, both in quality and in courtesy accessories.

Are the seats comfortable? Is the interior roomy? The '54 Hudson's seats are very comfortable; they're wide, and they fit the body contours, a boon to long-distance travel, which is the car's specialty. Legroom is only average in the driver's seat, but passengers can stretch their legs in complete relaxation. The low, sloping roof restricts headroom at the sides of the rear seat.

Does the Hudson give its driver maximum vision? The '54 car retains a comparatively low but wide windshield, and a sloping rear window with slight distortion at its extreme edges. All-around horizontal vision is good, but the driver cannot see the right front fender over the high hood. MT's test car had a tinted windshield; it kept the interior cool in hot, sunny weather and cut down glare appreciably. The optional dark-green band across the top made the taller drivers duck now and then.

Are the Hornet's instruments easy to read? Are all controls within the driver's reach? Except for radio controls at the center, the Hornet's glareproof panel (it's covered with a pebble-grained plastic) is free of projections, and the instruments are placed for maximum readability. The instrument cluster is in a shrouded paneling just below the driver's line of vision. Chrome on the steering column can cause annoying reflections in the windshield.

The Hornet's controls are directly back to front of the driver, on either side of the steering column; they are handy and clearly marked. Heat and ventilation handles are simple to operate; the system's output is entirely adequate in hot and cold weather. The Hornet retains the unsatisfactory, cowl-mounted vent.

Is the Hudson's exterior as good as its interior? Yes, the Hornet showed good materials and workmanship from its new grille to its taillights. The single-bar grill will be part chrome, part stainless steel. Body panels and paint on the test car were excellent, especially for an early car of performance. This car is at least up to the standard of its class, and far surpasses many others in workmanship and materials, wherever you look.

does the Hornet have a roomy trunk? Is it well finished? A new deck lid gives more vertical carrying space. Overall carrying capacity is slightly less than that of others in this price class. Trunk finish was decided to be up to the standard of the interior.

Is the Hornet's engine easy to service? At average cost, typical L-head engine, the Hornet's six has light servicing limitations, but even with the addition of the twin carburetors, power steering pump, and other accessories new under the hood, it's reasonably accessible for minor servicing.

Did the car operate smoothly? Did it seem durable? MT's Hydra-Matic seats and equipped Hornet ran well during all tests. The Hydra-Matic's gear changes were definitely felt by the passengers, even at low speeds, but the unit was fairly quiet. The Hudson's new Borg-Warner transmission, an automatic drive combining the features of B-W units in use on other cars, was not available at the time we tested the '54 Hornet. The new torque converter installation is the same price as Hydra-Matic, \$178.

The '54 Hudson Hornet is the second car tested this year that has been plagued with overheating. The Hornet's radiator blew off steam in our mountain test run, and on the dynamometer, and it overheated badly in traffic. (The temperature gauge indicated a normal heat range when the radiator boiled. Weather during the test was normal.) Aside from this, engine operation was faultless. The body was quiet and solid at the end of the test, and the interior showed no signs of soiling. Common minor new-car troubles were found in the Hornet (sticking ashtray, loose connection in the turn indicator).

What will I get for my money if I buy a Hudson Hornet? Power and quality. The engine will provide pulling power to vision match any need, and it has an adequate safety margin for passing at high speeds. The Hornet has family-car docility. The draw-back to this is bothersome engine noise of thumping low-gear acceleration.

The Hornet has exceptional roadability; there is little chance of a minor driver error or getting the car and its passengers into hot seat trouble in a fast turn. Yet anyone used to handling past Hornets will notice changes with the power steering. A fine highway car, the Hornet may seem bulky at first in city driving; its power accessories will eliminate any lasting problems. One of the Hornet's prime selling points will be its new interior. The well-built Hudson will give roomy, comfortable travel, reasonable economy, and above-average performance—at a price below the high-to-bred cars. The potential buyer—the buyer who shops for the top buy materially, not for the best buy trade-in-wise—will be impressed with the Hornet's true value.

For The Story in Figures, see next page.

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1954 HUDSON HORNET (with Hydra-Matic) THE STORY IN FIGURES

PERFORMANCE

CHASSIS DYNAMOMETER TEST

(Checked on Clayton Mfg. Co.'s chassis dynamometer; all tests are made under full load, which is similar to climbing a hill at full throttle)

RPM	MPH	ROAD HP
1200	32	39
2000	55	64
2500	70	82
2800	78	85 (maximum obtainable under any conditions)

ACCELERATION

(In seconds; checked with fifth wheel and electric speedometer)

Standing start 1/4-mile (71 mph; D4 range)	19.1
0-30 mph (32, car speedometer; D4 range)	4.5
0-60 mph (63, car speedometer; D4 range)	14.8
10-30 mph (D4 range)	3.7
30-50 mph (D4 range)	6.6
50-80 mph (D4 range)	16.5

TOP SPEED

(In miles per hour; clocked speeds over surveyed 1/4-mile)

Fastest one-way run	102.04
Slowest one-way run	99.66
Average of four runs	100.34

FUEL CONSUMPTION

(In miles per gallon; checked with fuel flowmeter, fifth wheel, and electric speedometer)

Steady 30 mph	22.9
Steady 45 mph	20.3
Steady 60 mph	17.8
Steady 75 mph	14.3
Simulated traffic over measured course	15.1
Total mileage driven and overall average for entire test	857 miles @ 14.4

BRAKE STOPPING DISTANCE

(To the nearest foot; checked with electrically actuated detonator)

Stopping distance at:	
30 mph	50
45 mph	101
60 mph	196

GENERAL SPECIFICATIONS

ENGINE

Type	L-head, six-cylinder
Bore & stroke	3 13/16 x 4 1/2
Stroke/bore ratio	1.18:1
Compression ratio	7.5:1
Displacement	308 cu. in.
Advertised bhp	170 @ 4000 rpm
Bhp per cu. in.	.55
Piston travel @ max. bhp	3000 rpm.
Maximum torque	278 lbs.-ft. @ 2600 rpm
Maximum bmm	136.1 psi

DRIVE SYSTEM

Standard transmission	Three-speed synchromesh using helical gears
Ratios	1st 2.57, 2nd 1.68, 3rd 1.00, reverse 3.49
Automatic transmission	Dual-Range Hydra-Matic, fluid coupling with gears

Ratios	1st 3.82, 2nd 2.63, 3rd 1.45, reverse 4.30
Overdrive transmission	Planetary type with manual lockout and gear selector downshift

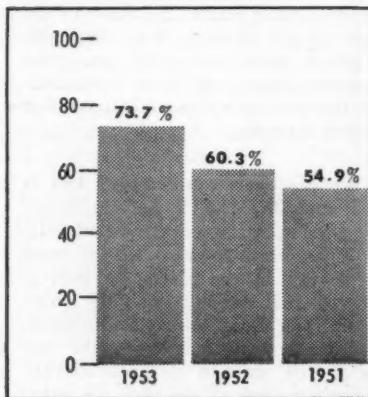
Ratio	0.7:1 (overall 3.19)
Rear axle ratios	Conventional 4.09, Hydra-Matic 3.07, Overdrive 4.55

DIMENSIONS

Wheelbase	123 3/4 in.
Tread	Front 58 1/2 in., rear 55 1/2 in.
Wheelbase/tread ratio	2.17:1
Overall width	77 3/8 in.
Overall length	208 7/8 in.
Overall height	60 3/8 in.
Turning diameter	Right 43 ft. 10 in., left 40 ft. 7 in.
Turns lock to lock	5 1/4
Curb weight	4110 lbs. (factory shipping wt. 3620 lbs.)
Weight/bhp ratio	24.1:1
Weight distribution	Front 56%, rear 44%
Tire size	7.60 x 15
Tire loading	Front 98%, rear 84%

DEPRECIATION

Percentage of original value retained by similar previous models at time of publication



PRICES

(Including retail price at main factory, federal tax, and delivery and handling charges, but not freight)

Four-door sedan	\$27.69
Club coupe	27.42
Convertible	N.A.
Hardtop	29.88

ACCESSORIES

Hydra-Matic	\$178
Overdrive	111
Twin H-Power	86
Power steering	177
Power brakes	43
Radio	100
Heater	74
Direction signals	20
White sidewall tires (additional cost per set, 7.60 x 15)	29

ESTIMATED COST PER MILE

(The Estimated Cost per Mile is given for comparative purposes and is not intended as a guide to the cost of operating a particular make or car within that make. To provide this comparison, Motor Trend has selected the following maintenance items for each car tested, regardless of whether or not the car would actually require them during the first year of operation)

Cost of year's gasoline (based on overall mileage of test car)

Cost of insurance (Includes: \$50,000 and \$100,000 bodily injury liability, \$5000 property damage, \$500 medical payments, comprehensive, \$50 deductible collision)

Maintenance: Wheel alignment, Brake lining (front only), Automatic transmission (adjust, change lubricant)

Major tuneup (Labor only; includes: Clean and adjust or renew points, Adjust spark timing, carburetor, valves, fanbelt, and generator. Clean air cleaner, battery terminals and fuel lines. Check coil, condenser, vacuum control, heat control, compression and vacuum. Tighten cylinder head, manifold and hose connections)

First year operating cost per mile (based on 10,000-mile annual average)

COST OF PARTS AND LABOR

(These are prices for parts and labor required for various repairs and replacements, provided for a comparison of prices for these sample operations in various makes)

	PARTS	LABOR
Distributor	\$ 25.45	\$ 2.40
Battery	21.50	2.40
Fuel pump	15.00	2.40
Valve grind	3.15	2.40
One front fender	42.25	29.00
Bumper	81.55	3.00
Two tires	70.80	1.00
TOTALS	\$259.70	\$62.40

Do Batteries Last Longer with AD-X2?

(Continued from page 31)

"will refer to the M.I.T. report he will find on the contrary, that Dr. Weber is most explicit in saying that of every pair he treated the worse cell, not the better cell . . ."

Now, if the reader of this article were to refer to the M.I.T. report, he might differ with Pioneers' opinion of what Dr. Weber said. As quoted in the Small Business Committee's sizable publication, what he actually said was, ". . . The general tendency [italics ours] was not to treat with the additive those cells which showed up best in any one battery, but rather to reserve for treatment the poorer cells." Perhaps Pioneers' interpretation is understandable enough; that of the Jeffries Committee seems odd.

While all this was going on, MT Research was naturally running its own tests. And what did they turn up? The table on this page shows what happened with three test batteries. You'll notice that we didn't test all three batteries in exactly the same way. Instead, we tested each individual battery in the same way *before and after adding AD-X2*.

When we had finished our four-day run-downs without the additive, we poured one envelope of AD-X2 into each cell and charged each battery for 30 minutes. Ten days later, we began the duplicate four-day tests with AD-X2. Four months after that, we did our rechecks. Obviously, the first rundown of each pair was longer with AD-X2. Just as evidently, the second rundown in each pair was generally weaker or showed little improvement. Here's what we found out:

RESULTS OF MT'S TESTS ON BATTERY AD-X2

Battery 1, a Trigger, was four months old when the tests began. It was in a car that stood idle for a week at a time and had been used very little. It remained in this kind of service until one month before the rechecks, when the car was put in daily service of 20 miles or more. It was used to start the engine in the car.

Battery 1—Rundown Times

Without AD-X2 With AD-X2

no charge given

1st Day	5 min. 25 sec.	6 min. 38 sec.
	rest of 1 minute followed by running engine 30 seconds at charging speed; (repeated between each pair of tests)	
	1 min. 24.6 sec.	1 min. 16 sec.
2nd Day	8 min. 35 sec.	9 min. 13.4 sec.
	1 min. 32 sec.	1 min. 25.9 sec.
4th Day	7 min. 58 sec.	8 min. 42.9 sec.
	1 min. 18 sec.	1 min. 4.4 sec.
4th Day	3 min. 42.5 sec.	5 min. 38.5 sec.
	43.2 sec.	48.8 sec.
Recheck four months later:	no charge given	7 min. 34.6 sec.
		45.4 sec.

Battery 2, an Exide, had been standing for eight months after intermittent use. It was fully charged and the run-downs on it were made with an engine that had been rebuilt but not run, so it was still tight. After the first tests, it went back to the shelf until the rechecks. The tight engine still had not been run when we made rechecks.

Battery 2—Rundown Times		Battery 3—Rundown Times	
	Without AD-X2 charged fully	With AD-X2 charged fully	Without AD-X2 charged fully
1st Day	5 min. 25 sec. rest of 1 minute (repeated between each pair of tests)	7 min. 31.5 sec.	3 min. 58 sec. rest of 1 minute (repeated between each pair of tests)
	1 min. 30 sec.	52.8 sec.	59 sec.
2nd Day	3 min. 38.8 sec. 45.6 sec.	4 min. 52.2 sec. 34.3 sec.	4 min. 45.4 sec. 36.1 sec.
3rd Day	4 min. 33 sec. 28 sec.	5 min. 24.8 sec. 35.3 sec.	4 min. 15 sec. 42.9 sec.
4th Day	2 min. 48 sec. 31 sec.	5 min. 6.2 sec. 37.8 sec.	4 min. 28.2 sec. 21.9 sec.
Recheck four months later:	charged fully	9 min. 24.3 sec. 31.2 sec.	charged 60 min.

Battery 3, a Hobbs, had been in regular use for one year until its owner thought it had a weak cell (some four months before the tests began). It sat on the shelf for the four months, and from the time of the first tests until the rechecks. It too was used to start the rebuilt engine.

So we can't say "Go ahead and use it, it's great" or "Don't use it, it's not worth

(Continued on next page)



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the \$3." If you're considering the use of AD-X2, the decision you will have to make is this: "Should I spend approximately 13 per cent of the price of a new battery for a benefit that at best is difficult to prove? And will it extend the life and/or performance of the battery beyond that 13 per cent investment?" Here are a couple of points to help you make up your mind:

Some battery companies invalidate their guarantee if you use any battery additive.

Lay testimonials, regardless of the good faith of the people concerned, are never accepted as conclusive scientific proof.

We're going to keep on testing these same batteries at intervals, and will keep you posted on the results. One thing is sure so far: they have not collapsed. Without the effects of AD-X2's added elements, would they have died?

(NOTE: In the preparation of this article, MT Research digested reams of reports, tests, testimonials, etc., besides conducting our own tests. If you want the detailed AD-X2 bibliography from which this article was written, send a self-addressed, stamped envelope with your request. There is no charge.—Editor.)

Chrysler Road Test

(Continued from page 25)

most effective. The heater controls are simple to operate; they are not illuminated for night driving.

Does the body styling allow good vision?

The Chrysler's unchanged body gives good all-around vision, partly because of the chair-height seats. The driver can't see the front or rear fenders. Average-size cornerposts don't obstruct vision to the front, and the rear quarter panels are narrow enough to eliminate blind spots to the sides at the rear.

Now, what about PowerFlite? A torque converter containing planetary gears for a smooth, automatic shift in DRIVE range, PowerFlite eliminates the clutch and provides an uninterrupted flow of power during acceleration. Performance-wise, it's a good running mate to the FirePower engine. In trying the best possible shift pattern for maximum acceleration, MT's test crew found no advantage to using PowerFlite's low range, for the unit starts in that gear automatically (with the selector in DRIVE) and you can hold it there up to 70-75 mph. PowerFlite's converter starting ratio of 2.6 to 1 multiplies a 1.72 planetary starting gear ratio for an overall torque ratio of 4.47 to 1, which Chrysler proudly points out to be the highest multiplication for passenger car—DRIVE range operation in the industry.

How does the 235-horsepower car with PowerFlite compare to the '53 in performance? Chrysler's new engine-transmission combination showed the effect of the new torque converter in the lower speed ranges, for the '54 test car's times of 19.1 seconds in the quarter-mile runs and 4.8 seconds in the 0-30 mph runs were slightly better than the times shown by the '53. In the upper speed ranges, the 55-horsepower engine boost told an even better story: the new car's 50-80 time of 14.3 seconds and 0-60 time of 12.2 seconds are faster by 4.8 and 3 seconds, respectively. As for top speed, various snarls in our tests kept us from getting more than 108 mph. We'll soon re-test the car for top speed.

How has Chrysler gained the 55-horse-

power increase in the V-8? Chrysler has not capitalized on the potential of the 331.1-cubic-inch V-8 until this year, and the long-awaited power increase is indeed impressive. The gain in brake horsepower and the torque increase (from 312 to 330 pounds-feet) come largely from better breathing. The intake manifold has two additional risers and an overall increase in cross section; exhaust manifold outlets are larger, and a dual exhaust system (with separate take-offs from each cylinder bank) reduces engine back pressure. Intake and exhaust valves and ports are larger in the 235-horsepower engine, and a new, larger air cleaner provides an unrestricted air intake to the four-barrel carburetor.

Does the power increase affect the car's economy? Fuel economy suffers only slightly at most speeds. At higher speeds the '54 was more wasteful by 2.4 mpg at 60, and 2.2 mpg at 75—which many people might consider a fair price to pay for performance. The '54 car showed a slight improvement over the '53 in fuel consumption in traffic.

Is the fast-moving Chrysler hard to stop? MT Research was treated to a pleasant surprise during the Chrysler's brake checks. The 4420-pound New Yorker Deluxe came to straight skidding stops in 43 feet at 30, 94 feet at 45, and 164 feet at 60 mph, showing a life-saving 34-foot improvement at 60 mph over last year's car. One thing that could be improved however, is the pedal position: it isn't as low as in other power brake systems that let you keep your heel in one place while shifting from throttle to brake. Chrysler, though, feels that the treadle-type pedal gives the driver too little leverage if fading should occur.

Is the '54 Chrysler a well-built car? MT's test car was solid, quiet, and apparently well put together. Its paint was flawless, and all panels fitted neatly. Trim was not quite up to the high standard set by last year's New Yorker; moldings were not as secure as they could have been (although they didn't rattle) and finish

the trunk compartment (loose side paneling, poor-fitting floor covering) lowered the overall rating. The Chrysler's new grille is simple in design and construction, and is made of lighter metal than that in past Chryslers; this would reduce repair costs. Bumpers, bumperguards, and rub strips were of average quality and gauge, and adequate for the job required.

Does the Chrysler have a roomy trunk? Yes, it has an extremely useful trunk. It's high, wide, and contains a great deal of level carrying space. The high sill at the rear of the trunk means lifting articles high off the ground to load or unload the trunk; MT Research continues to hope for relocation of the gas filler cap, cause of the high trunk sill and of spilling with a full tank.

Did the car operate smoothly during the test? Like last year's Chrysler test car, the '54 car ran quietly and smoothly during the entire test. This year's more powerful engine, unlike the '53, idled smoothly at all times. The Chrysler showed no serious brake fade after hard use, although at the completion of the brake and acceleration checks, the brakes grew noisy. Overall durability should be good; we feel that the only drawback to long-term usefulness (this applies mostly to a family with small children) will be found in the interior of the car, which is almost *too* good for the all-purpose demands on a car in everyday use.

Is the New Yorker Deluxe a good buy? Whether or not any car is a good buy depends mostly on you; MOTOR TREND

points out the attributes of each car, its intended market, and the things that may qualify it as your next car. The '54 Chrysler fills the bill as a roomy, comfortable car that combines high-quality riding ease with top-notch performance. For the year-round trader, its resale value is not high. It should be a favorite with past Chrysler owners, for it has new power, new driving ease (thanks to clutchless PowerFlite), and all the traditional Chrysler qualities. For the buyer who has never owned a Chrysler, we say this: drive the '54 New Yorker Deluxe, appraise it in the light of your needs, and compare it in price, roominess, quality of finish and materials to others in its class. You'll find that, regardless of your final choice, the '54 Chrysler has what it takes to make it one of America's top luxury cars.

1954 CHRYSLER NEW YORKER DELUXE (with PowerFlite) THE STORY IN FIGURES

PERFORMANCE

CHASSIS DYNAMOMETER TEST

(Checked on Clayton Mfg. Co.'s chassis dynamometer; all tests are made under full load, which is similar to climbing a hill at full throttle)

RPM	MPH	ROAD HP
1750	25	63
2000	38	82
2500	58	102
3200	82	125 (maximum obtainable under any conditions)

ACCELERATION

(In seconds; checked with fifth wheel and electric speedometer)

Standing start 1/4-mile	19.1
30-30 mph (77 mph; Drive range)	4.8
60-60 mph (62 mph; Drive range)	12.3
10-30 mph (Drive range)	3.8
30-50 mph (Drive range)	4.9
50-80 mph (Drive range)	13.3

TOP SPEED

(In miles per hour; clocked speeds over surveyed 4-mile)

Fastest one-way run	19.1
Slowest one-way run	4.8
Average of four runs	Not available at presstime

FUEL CONSUMPTION

(In miles per gallon; checked with fuel flowmeter, fifth wheel, and electric speedometer)

Steady 30 mph	18.0
Steady 45 mph	16.4
Steady 60 mph	13.7
Steady 75 mph	11.5
Simulated traffic over measured course	12.5
Total mileage driven and overall average for entire test	803 mi. @ 10.2

RAKE STOPPING DISTANCE

(To the nearest foot; checked with electrically activated detonator)

30 mph	43
45 mph	94
60 mph	164

GENERAL SPECIFICATIONS

ENGINE

Type	V-8, laterally inclined ohv
Bore & stroke	3 13/16 x 3 5/8
Stroke/bore ratio	0.95:1
Compression ratio	7.5:1
Displacement	331 cu. in.
Advertised bhp	235 @ 4400 rpm
Bhp per cu. in.	.71
Piston travel @ max. bhp	2650 ft. per min.

Maximum torque 330 lbs.-ft. @ 2600 rpm

Maximum bmeep 150.3 psi

DRIVE SYSTEM

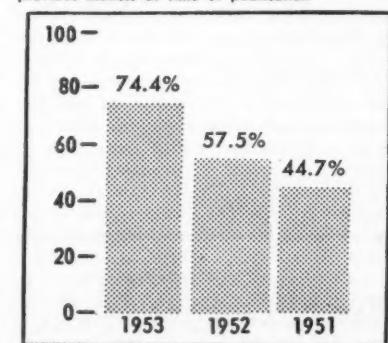
Transmission	PowerFlite, torque converter with planetary gears
Ratios	Low 1.72, drive 1.72 and 1.00, reverse 2.39; maximum converter ratio, 2.6 @ 1510 rpm
Rear axle ratio	3.54:1

DIMENSIONS

Wheelbase	125 1/2 in.
Tread	59 5/8 in.
Wheelbase/tread ratio	2.15:1
Overall width	77 3/4 in.
Overall length	215 1/2 in.
Overall height	64 1/2 in.
Turning diameter	43 ft. 6 in.
Turns lock to lock	3
Curb weight	4420 lbs. (factory shipping wt. 3955 lbs.)
Weight/bhp ratio	18.8:1
Weight distribution	Front 55%, rear 45%
Tire size	8.00 x 15
Tire loading	Front 87%, rear 71%

DEPRECIATION

(Percentage of original value retained by similar previous models at time of publication)



ESTIMATED COST PER MILE

(The Estimated Cost per Mile is given for comparative purposes and is not intended as a guide to the cost of operating a particular make or car within the cost of make. To provide this comparison, Motor Trend has selected the following maintenance items for each car tested, regardless of whether or not the car would actually require them during the first year of operation)

Cost of year's gasoline (based on overall mileage of test car) \$294.00

Cost of insurance 157.40

(Includes: \$50,000 and \$100,000 bodily injury liability, \$5000 property damage, \$500 medical payments, comprehensive, \$50 deductible collision)

Maintenance: 12.00

Wheel alignment 13.58

Brake lining (front only) 12.60

Automatic transmission 14.00

(adjust, change lubricant)

Major tuneup

(Labor only; includes: clean and adjust or renew points and plugs. Adjust spark timing, carburetor, fanbelt and generator, clean air cleaner, battery terminals, fuel bowl and fuel lines. Check coil, condenser, voltage control, heat control, compression and vacuum: Tighten cylinder heads, manifolds and hose connections)

First year operating cost per mile

(based on 10,000 mile annual average) 5.00

COST OF PARTS AND LABOR

(These are prices for parts and labor required in various repairs and replacements, provided for a comparison of prices for these sample operations in various makes)

	PARTS	LABOR
Distributor	\$40.00	\$4.00
Battery	24.95	
Fuel pump	10.00	2.80
Valve grind	5.58	45.20
One front fender	57.26	31.50
Bumper	93.72	7.50
Two tires	63.14	
TOTALS	\$294.65	\$91.00

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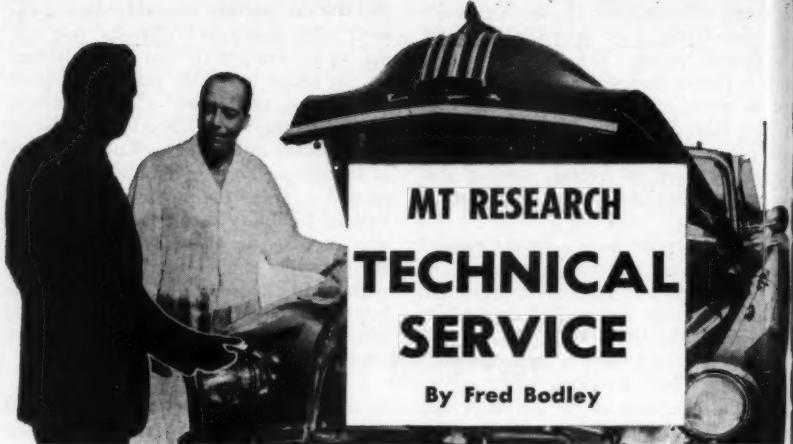
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MT RESEARCH TECHNICAL SERVICE

By Fred Bodley

Please send a self-addressed, stamped envelope if you want to receive a personal answer. There is no charge for this service. Only selected questions are printed for the interest of readers.

QUESTION—Could a Hudson Hornet engine be put into a Kaiser? I believe this would be a good combination to give high performance to a car that has the appearance of speed. James Brewer, Jr., Fort Jackson, S.C.

ANSWER—I can think of no good reason why a Hudson Hornet engine in a Kaiser should not be a good combination. There should be no particular problem to the installation, other than moving the radiator forward and the making up of engine mounts, etc. I would suggest using the Hudson transmission to simplify the job. How well the rear axle will stand up, only time and the manner in which the added power is used can tell.

QUESTION—I am planning to build up a '34 Ford five-window coupe for everyday use. The engine will be modified to develop about 165 horsepower. The rear axle ratio is 4.11 to 1 with 7.60 by 15 tires. I want good acceleration and as much top speed as possible. What ratio would you suggest? Will I have any cooling troubles using a '34 radiator in good shape? Would stock Ford bearings be okay? What valve springs would you suggest with a $\frac{1}{4}$ cam? What carbs and jet sizes would you suggest for a low dual manifold? Will a '49 Merc transmission with overdrive fit this buggy? John R. Rusch, Minneapolis, Minn.

ANSWER—With your proposed modified engine in a '34 coupe, a 3.78 to 1 rear axle gear should be the best all-around ratio unless you would rather sacrifice a little acceleration for more top speed. You will probably have cooling troubles due to the $\frac{1}{8}$ -inch overbore and high compression. Try a thicker radiator core or an expansion tank for added capacity. Stock Ford bearings should be satisfactory. I would suggest Zephyr valve springs with the $\frac{1}{4}$ cam. Stromberg 97s are about the best carbs for your purpose. Check the fuel/air ratio after installation and then change jet sizes if necessary. A '49 Merc transmission with overdrive will not fit in your chassis without extensive changes.

QUESTION—I want to improve the gas mileage of my '52 Chevrolet Powerglide without seriously impairing performance. Can I

make any changes to the carburetion, ignition, exhaust system, transmission, valves, compression ratio, etc.? Glen Waterman, Oakesdale, Wash.

ANSWER—You can improve the gas mileage by increasing the compression ratio and installing a dual exhaust system. I would suggest a compression ratio of not over 8 to 1 for everyday use. These two changes will not impair the performance but should improve it.

QUESTION—I intend to install safety belts in my '52 Mercury. I would like to know what is common practice concerning the anchoring of the front seat. I know that in a wreck the front seat is often pulled loose and I was wondering if the installation of the seat belts is intended to hold the seat down as well as the passengers. How is it done to retain the fore and aft adjustment of the seat? I am a firm believer in the value of seat belts on the highway as well as the track.

Would you advise the installation of these head gaskets? M/Sgt. Donald D. Ball, 318th Fighter Interceptor Squadron.

ANSWER—The front seat of a passenger car in a bad collision can come loose at different points. Sometimes the rivets shear that hold the seat frame to the track; sometimes the track spreads, and occasionally the whole assembly comes adrift when the attack hook pulls through the floor. Consequently, I know of no means of securely anchoring the front seat and still retaining the adjustable feature. However, safety belts when properly installed will hold the passenger and in so doing restrict seat movement so that the seat is far less likely to break loose.

The correct installation for safety belts is to drill suitable holes in the frame or a frame cross-member in which to anchor the ends of the belts. When this is not practical the anchor bolts may be located in the car floor and thick, large-diameter washers installed under the heads of the anchor bolts, which will preclude the possibility of the bolts pulling through the floor under the stress of heavy impact.

Thin head gaskets are a quick and easy method of raising the compression ratio. Do

to their thinness or lack of body they will compensate for only very small amounts of surface unevenness. Therefore, it is of the utmost importance that the block and head surfaces be as true and clean as possible. If either surface is dirty or slightly warped, blown gaskets and leaks will result.

QUESTION—I would like to know your opinion on the use of molybdenum in the lubricating oil of an automobile. Can house trailers be towed successfully behind automobiles with automatic transmissions? In my '42 Ford and '50 Chevrolet I have been changing the oil filter cartridge every 1500 to 2000 miles and the oil about every 5000 miles. Do you think this is good practice? Is there any way an automobile engine can be made to operate successfully on kerosene, either for stationary power or for driving? H. R. Duke, Bryan, Texas.

ANSWER—*Molybdenum disulfide is itself a fine lubricant. How effective it is as an oil additive I am unable to say, as we do not have the facilities for comprehensive tests of this sort. How successfully a house trailer can be towed by a car with an automatic transmission depends on the trailer's weight. A small, light trailer should offer no particular problem, but the large, heavy jobs should be towed by a 1/2-ton truck equipped with a compound low first gear.*

During warm weather I see no harm in changing your filter cartridge each 2000 miles and the oil every 5000 miles; however, during cold weather (due to increased oil contamination) I would change the oil each 1000 miles and the filter at 3000 to 5000 mile intervals, depending on how much of your driving is short runs with long cooling-off periods. Absorbent-type oil filter cartridges remove a certain amount of detergent from the oil and two or three cartridges may remove a sufficient amount of detergent to rob the oil of its cleansing power. This fact should be taken into consideration when contemplating frequent changing of the oil filter cartridge.

There are conversion units which enable automobile engines to run on kerosene after first being started and warmed up on gasoline. With modern high-compression engines operation is not too satisfactory. The old low-compression jobs did fairly well.

QUESTION—I am going to buy a '54 Olds 98 and I'd like the following information. What axle ratio would you recommend for high speed? It was suggested I use a 3.21 to 1. Do you think I should use dual carbs, or would a four-barrel one be as efficient? I want to drop the rear end. How many inches would you suggest without interfering with passenger weight and luggage? William Mooney, Detroit 2, Mich.

ANSWER—*If your '54 Olds 98 will have Hydra-Matic transmission, the best rear axle gear for top speed is the optional 3.07 to 1 ratio.*

For best all-around performance and smooth operation, I suggest you retain the four-barrel carburetor with which the car will be equipped.

I would not advise lowering the rear of the car at all if you do not want it to bottom excessively with a full passenger load.

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Driving around with Walt Woron

Road test report on the top-selling sports car, and first impressions of Cadillac's improvements for '54... 1700 miles in a DeSoto V-8 with PowerFlite



1954 MG-TF

WHAT MAKES A SPORTS CAR? Or more specifically, what makes a sports car a *good* sports car? To my way of thinking, it's powerful brakes, outstanding acceleration, terrific handling, and the ability to go and go without fear of breakdown. If you take every sports car and measure it up to the *ideal* sports car, you'll have a tough time deciding if the one you're measuring is as good as it *should* be. First of all, who's to decide how it *should* be?

Just a short while ago I drove one of the world's most popular sports cars—the MG-TF. Stylewise, this car is a pleasing combination of the old and the new. Performancewise, let's see how it stacks up against the ideal sports car.

It has outstanding brakes, has fair acceleration, handles well, and is one of the most durable cars built. But—this still leaves it somewhat short of the ideal. On the other hand, MG press releases tell you that "a cross-section of consumer-dealer opinions showed that 80 per cent of MG owners do not want their cars for competition or racing . . ." This bears out my own forecast that the TF will be accepted by former MG owners who are not dissatisfied with its peculiarities.

Compared to every stock American car, the MG-TF has exceptional brakes. *Not one car* tested by MT last year had brakes that would stop it any faster and with less fade than the TF. Where the average stopping distance (the average of averages at 30, 45, and 60 mph) for all '53

stock cars was 116 feet, the MG figure was only 91 feet. My only complaint is a fairly general one directed at almost all British sports car manufacturers: they don't leave enough room between pedals for us big-feeted Americans.

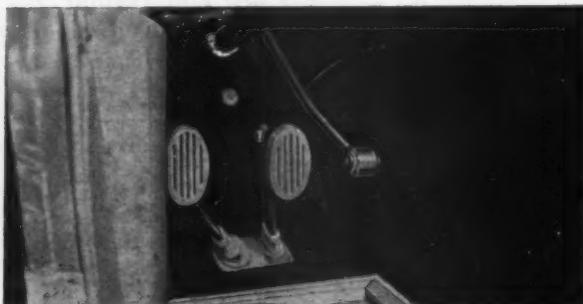
I can't say that the TF has good acceleration, unless you want to take into consideration the fact that it's powered by a small-displacement engine (76 cubic inches) giving out only 57½ bhp. Allowing for this, it's better than most American stock cars. Still, the way most cars are compared for get-up-and-go is away from a stoplight. In the TF, you'll be lucky to beat more than just a couple of the low-priced American stock cars to the end of a quarter-mile marker from a standstill.



Proudly displaying new grille and headlight treatment, MG-TF retains sporting spirit of TC model with optional wire wheels



Higher cowl line is a major body change. "Fly-off" handbrake, gearshift are close to driver. Instruments lack readability



Driver's left foot can't stray far from clutch pedal; right foot has choice of resting on accelerator or brake pedal



Luggage compartment consists of space between seats and fuel tank. Side curtains are stored in space under parcel shelf

The TF handles well, but not as well as the ideal, mainly because it's too easily crossed up. Pushing it into sharp corners at any speed over 25 mph, the rear end seems to get light and you find yourself fighting the wheel to keep from going off the road. Fortunately, it has quick steering, so you don't get all tangled up in arms and spokes. In its defense I will say that the only time I actually crossed it up so badly that there was any danger of losing control was on asphalt in the rain. Generally, it sticks, but the point I'd like to make—for safety's sake—is that it does not go around corners "like it was on rails," as overzealous salesmen sometimes tell prospective customers.

The MG has found a niche in the American market; 25,000 MGs sold in the U.S. since '46 attest that many loyal owners overlook its drawbacks in favor of its advantages. It has an appeal that's hard to put your finger on. Most of all, it's fun to drive. And beyond that it's easy to weave in and out of traffic, provides adequate second transportation, and gives good fuel economy.

But I'm still looking for that MG with the 1½-liter (91-cubic-inch) engine. This should give it just that extra bit of push needed to stay with traffic without winding it through every gear to top engine rpm limit. I'll take that even at the sacrifice of some of the phenomenal fuel economy it now delivers.

(Continued on page 62)



Simple pushbutton hood latches show sensible revamping that went into TF design



Rear fenders have trim trailing edges. Round taillights are '54 styling change

March 1954

1954 MG-TF THE STORY IN FIGURES

PERFORMANCE

CHASSIS DYNAMOMETER TEST

(Checked on Clayton Mfg. Co.'s chassis dynamometer; all tests are made under full load, which is similar to climbing a hill at full throttle)

RPM	MPH	ROAD HP
1200	16	7.5
2000	30	16
2500	37.5	21
4500	70	38 (maximum obtainable under any conditions)

ACCELERATION

(In seconds; checked with fifth wheel and electric speedometer)

Standing start 1/4-mile (61 mph):	1st, 2nd, 3rd	22.6
0-60 mph (64, car speedometer):	1st, 2nd, 3rd	22.2
10-30 mph (2nd)		5.6
30-50 mph (2nd, 3rd)		8.7
50-75 mph (3rd, 4th)		32.7

TOP SPEED

(In miles per hour; clocked speeds over surveyed 1/4-mile)

Fastest one-way run	86.5
Slowest one-way run	78.1
Average of four runs	82.1

FUEL CONSUMPTION

(In miles per gallon; checked with fuel flowmeter, fifth wheel, and electric speedometer)

Steady 30 mph	36.4
Steady 45 mph	29.2
Steady 60 mph	25.2
Simulated traffic over measured course	29.0
Total mileage driven and overall mileage for entire test	660 miles @ 22.9

Brake Stopping Distance

(To the nearest foot; checked with electrically actuated detonator)

30 mph	39
45 mph	87
60 mph	147

GENERAL SPECIFICATIONS

ENGINE

Type	Ohv, four-cylinder
Bore & stroke	2 5/8 x 3 35/64 in.
Stroke/bore ratio	1.35:1
Compression ratio	8.0:1
Displacement	76 cu. in.
Advertised bhp	57 1/2 @ 5500 rpm
bhp per cu. in.	.76
Piston travel @	
Max. bhp	3245 ft. per min.
Maximum torque	65 lbs.-ft. @ 3000 rpm
Maximum bemp	128.5 psi

DRIVE SYSTEM

Transmission	Four-speed synchromesh
Ratios	1st 3.5, 2nd 2.06, 3rd 1.38, 4th 1.0, reverse
	3.5
Rear axle ratio	4.88

DIMENSIONS

Wheelbase	94 in.
Tread	50 in.
Wheelbase/tread ratio	1.88:1
Overall width	59 1/4 in.
Overall length	147 in.
Overall height	52 1/2 in.
Turning diameter	31 ft. 3 in.
Turns lock to lock	2 3/4
Curb weight	2060 lbs. (factory shipping wt. 1932 lbs.)
Weight/bhp ratio	35.8
Weight distribution	Front 49%, rear 51%
Tire size	5.50 x 15
Tire loading	Front 52%, rear 53%

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Sixty-two

1954 CADILLAC

A FEW WEEKS before presstime, Don MacDonald drove the '54 Cadillac up and down the Willow Run Expressway (in Detroit). He says that even with the chrome masked and in a city where factory prototypes are quite common, the car attracted a great deal of attention. It's no wonder that it did. The car has much more than just a "face-lift." It has a new style that will take a while to get used to. About the Cadillac's ride and handling, Don had this to say:

"The seat of your pants may have told you that your car rides harder in the winter than in the summer. Cadillac engineers, pondering this problem, came up with a special (and costly) fluid for the '54 model that helps the shock absorbers adjust automatically for climatic conditions.

"Such a passion for detail has also been true of previous Cadillacs, and cannot in itself account for the marked improvement in roadability for 1954. The completely redesigned chassis provides a one-inch-wider front tread and a three-inch-longer wheelbase in Series 60 Special and 62 models. The roll center is raised, and the net result is a car that rounds high speed curves with gyroscopic leveling.

"By cutting roll to an almost irreducible minimum, Cadillac also overcame the tendency (of previous cars) to require a fair degree of curve correction. It makes the difference between you steering the car or the car steering you, even with the 21.3 overall ratio Saginaw power steering (standard equipment this year). My only complaint is a slight nibble at the steering wheel at 60 mph. It disappears above and below this speed. This is a chronic ailment inherited from previous models, and can be cured only temporarily by static balancing of the front wheels.

"Pitch is noticeably absent even over severe dips. Wondering why, I questioned a Cadillac engineer who credited the longer wheelbase. The ride is as soft as ever, although there was some oscillation in the test car when driven over bumps at highway speeds. As this particular car was one of the first off the line, I suspect too great a tolerance between individual shock absorber calibrations. This is a minor problem which can easily be corrected in production.

"I liked the new power brakes. Cadillac's version of the Bendix system is a boost superimposed on the regular hydraulic system, and is absolutely safe even if you stall the engine. This year's emergency brake has an easy twist release as well as being noticeably easier to apply.

"Front seat visibility is excellent in all directions, a rather vital requirement for a car of such land-yacht proportions. I felt like the skipper of the Queen Mary while parking. All it took was drawing a bead on the right tail fin and a quick twirl of the wheel, but an experienced harbor pilot

would have been handy to have around.

"Driving position is erect and comfortable with all controls readily at hand. There is absolutely no windshield reflection from the leather-covered crash pad on the panel. Cadillac's version of the Dual Range Hydra-Matic (also standard) seems to give a much smoother shift than other cars equipped with this transmission. And so it goes; the list is seemingly endless."

1954 DE SOTO



IT MAY SEEM paradoxical to say that a car devoid of a definite personality is a good car, yet these are my exact sentiments in regard to the '54 DeSoto. This impression that I'm left with (after driving the car on a 1745-mile round trip from Los Angeles by way of San Francisco, Lake Tahoe, Nev., and Death Valley) is no doubt because the car has no one feature that stands out above the others.

Yet the DeSoto rides comfortably over the roughest of roads, accelerates well enough to stay with traffic, cruises well at high speeds, doesn't sway sickeningly in corners, and is finished extremely well. And, just as it has no outstanding features, neither does it have any glaring faults.

The driving position is comfortable (it's a top point in all Chrysler cars); instruments are fairly legible in the daytime and extremely so at night; vision front and rear is good though you can't see either of the right fenders. There's loads of room in which to stretch out and if I had worn a hat it wouldn't have been knocked off getting in or out. The chair-height seats are not only comfortable, but you also sit high enough to have a good command of the road.

The ride was comfortable; dips of all kinds were fairly well smoothed out, but there is still quite a bit of oscillation.

It took a couple of hundred miles to get used to the full-time power steering again, but after that it became almost second nature to expect no resistance to a tug at the wheel. I personally miss the "feel," because it just isn't there, but I do like the comparatively low number of turns (3 1/4) lock-to-lock. It came in handy more than once in getting out of ticklish spots.

—Walt Woron

Motor Trend

Classic Comments

(Continued from page 44)

a Duesenberg, so the first Auburn speedsters were assembled in 1934 with the big 12-cylinder mill. To further reduce prices, those built in '35 and '36 were fitted with 150-bhp, straight-eight, L-head Lycoming engines with a centrifugal-type supercharger. With the blower, maximum bhp was at 4000 rpm; without it, the engine developed 115 bhp. For the technically minded enthusiasts, the bore was 3 1/16, and the stroke 4 1/4 inches, which, multiplied by eight, resulted in just under 280 cubic inches displacement. The compression ratio was 6.5 to 1 (7 to 1 was optional). The centrifugal blower, driven by the timing gear, speeded up to 5.75 times crankshaft speed with a planetary gear.

Construction of the car was as interesting as its appearance. It had a two-speed rear end (dual ratio, as on the plainer models). In conjunction with the three-speed conventional shift, synchromesh transmission, this meant six forward speeds. A lever mounted on the steering wheel activated a vacuum cylinder fastened to the front end of the axle housing, and this operated a sliding clutch to change ratios. Heavy-duty hydraulic brakes performed well even at high speeds. The car was deceiving in appearance: the driver sat rather high, and so did the center of gravity. Coupled with the 127-inch wheelbase, this detracted considerably from handling characteristics.

It was noted for its outstanding acceleration and top speed. A silver plaque on the machine-tooled chrome dash of the feature car reads, "This Auburn automobile has been road tested at 100.0 miles per hour under AAA sanction before shipment. Ab Jenkins." Each speedster had a similar plaque. Arlington recently drove his car in a measured mile run. Without really pushing it, he clocked 92.6 mph. With proper attention and tuning, an Auburn speedster has clocked 118 mph.

The machined dash contained an impressive array of gauges and accessories including a tachometer and an oil pressure gauge, plus a red light that flashed on if oil was low. The Startix was similar to modern key-starting systems, but the car would automatically restart itself, if it coughed and died.

The Arlington car sports a full restoration. The fenders and all body parts were removed from the frame, everything was cleaned and painted, and new tubing was installed. All brightwork has been replated, the engine overhauled, and new leather installed throughout the cockpit. The body gleams in 13 coats of cream lacquer. Body construction permits the top to vanish into a well behind the seat.

The car has appeared five times on a coast-to-coast TV network. It is truly representative of the fine old marque.

—Robert J. Gottlieb

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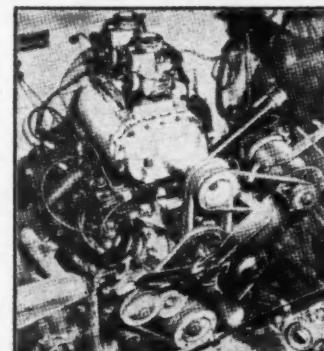
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Spotlight on Detroit

(Continued from page 13)

"MADMAN" MUNTZ, who still builds cars as well as television sets. His wife must have a hand in this act too, because he's certainly not giving them away. The newest model delivers fully equipped, f.o.b. Chicago, at about \$9000. This price includes air conditioning and every type of power accessory known to Detroit. Genial Sam Koske presides over this remarkable establishment, which has produced about 350 cars in its short lifetime. He'll take your order and fit you into the four or five per week schedule. Muntz for '54 sports a 121-inch wheelbase and the latest Lincoln engine coupled to Dual-Range Hy-

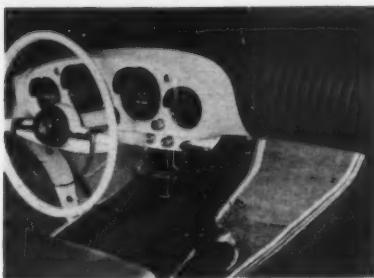
dra-Matic. Drive is through a Spicer rear end adapted from Hudson. The new hood is louvered on top and there's a Muntz adaptation of the Huddleson continental kit on the rear. Suspension is a '53 Ford front end with Muntz-designed rear leaf springs. The radio box which effectively prevented romance between front seat passengers is discontinued. Instruments are Stewart-Warner, encased in a leather-covered panel. The car we saw was a prototype being built for Muntz himself; like all prototypes, it had plenty of bugs. For example, the power front seat in low position was still high enough to dislodge the toupee of any normal-sized man sitting in it. Some of the Fiberglas body panels looked like metal that had been poorly bumped out after a bad accident. This certainly won't be true of the production version, nor the more reasonable . . .

MUNTZ ROADSTER, which still bears a strong resemblance to Frank Kurtis's original design. It's on a 103-inch wheelbase, and with the current ohv Lincoln engine has a power-weight ratio that guarantees outstanding performance. We say more reasonable because it's tagged at \$4200. Actually, being price conscious when you walk into the Muntz Car Co.'s quarters is a waste of your time and theirs. Koske makes his living by leasing those brightly painted Muntz TV trucks (TV is the main purpose of the company) which you've undoubtedly seen in your neighborhood. He'll build you a Muntz Jet, but only on order. He doesn't claim that it's a sports car, and he's vaguely surprised that he's sold as many as he has. Perhaps his setup is best described by reporting on the last purchase of a Jet by a VIP (and there have been many); it was some king or other, but Koske

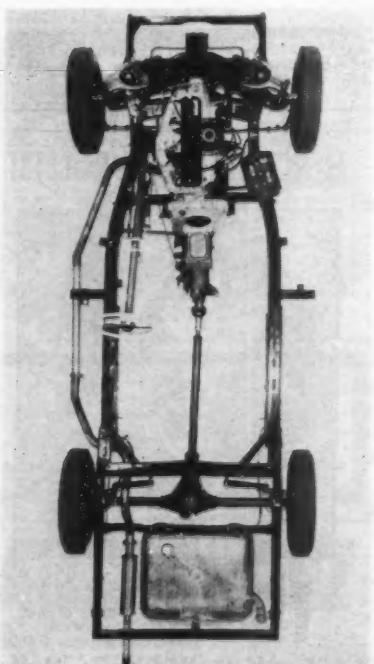
couldn't quite remember his name. Memorable changes feature . . .

THE 1954 KAISERS, automobiles which make the future of Toledo look bright. Heading the list is a supercharged Manhattan with what many newsmen consider the year's prettiest grille. A McCulloch blower (MT, Oct. '53) boosts bhp from 118 to 140 and operates only when you need it. An accelerator kick-down actuates a solenoid which, in turn, varies the supercharger drive ratio. The last supercharged American production car was the Cord-bodied Graham, which went under in 1941. Spotlight's face is a little red from predicting an ohv truck engine for the Kaiser. Actually, the Reo "Gold Comet" was seriously considered, but McCulloch came up with a more desirable solution. The Kaiser Deluxe is continued this year with an unsupercharged version of the "Super Power" L-head six. Both cars feature . . .

DARRIN-DESIGNED BODIES in two- and four-door form. With the exception of the new grille and headlight enclosures, there are only minor changes in trim. The pop-out windshield with the low neckline offers its usual excellent visibility. Inside the Manhattan, you'll see a completely redesigned instrument panel. The foam rubber crashpad continues on this and also on the Deluxe model, which uses last year's panel. All models are available with either Dual-Range Hydra-Matic, standard, or overdrive transmission. Kaiser is still making the Henry J in space leased back from GM at Willow Run, but its future is doubtful. The '54 version continues unchanged from last year and will be made as long as dealers find they can sell it. Since most Kaiser and Willys dealers have taken up dual franchises so that they can all sell Jeeps (the bread and butter of Toledo's business), few will want to plug the Henry J, which is roughly competitive with the inexpensive Willys Lark. All of them,



Kaiser-Darrin 161 instrument panel includes a tachometer among conventional gauges. Floor shift operates overdrive



Kaiser-Darrin 161 retains Willys engine in domestic form, may get a blown Kaiser



Although strictly Willys in appearance, the '54 model carries Kaiser power underhood, a hint of things to come from last year's merger. Grille is chrome trimmed, lights hooded

though, will want at least one of the . . .

KAISER-DARRIN 161 sports cars in their showrooms. Present production schedules call for 1500 of them by the end of May, with an ultimate goal of 3000. They retail at \$3668 plus transportation and local taxes. As reported in January's Spotlight, the engine is an unmodified Willys F-head, but look for a McCulloch-supercharged Kaiser as an option later. U.S. Rubber's Naugatuck Chemical Division produces the Vibrin (Fiberglas) plastic for the bodies. The one-piece wrap-around windshield differs from the prototype, but the unusual sliding doors are still there. Reason given for these (and we won't argue) is that the car is so low that conventional doors would bang against the curb. So we have another on our list of American-built sports-type cars in serious production. The next step is for either one or both of these companies to spon-

class. Purchase a McCulloch blower from your local dealer and you'll have a very willing Willys. The low-priced Lark now comes with the 90-bhp F-head six. Styling changes are minor. The radiator opening is as cavernous as before but outlined in new chrome. Headlights and even the little parking lights wear a sleepy look with their slightly drooping chrome eyelids. Hydra-Matic and power steering are available options on all models. Pride of the Willys fleet is the Custom Eagle hardtop with a continental spare. It shares with the others a new instrument panel designed in conformity with the "vertical" accessibility principle used in aircraft cockpits. Single levers for all major controls move vertically in their slots, eliminating the multiplicity of protruding knobs found on conventional panels. So far, Kaiser-Willys products have maintained separate styling identity. A sign of what is to come, though, is the new engine interchangeability. Production economy

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sor team competition, and we don't mean in sales but on road and track. Kaiser-Willys, for one, could latch on to Brooks Stevens. He is entering his Toledo-based Excalibur J in 1954's Le-Mans. His recent statement in *Automotive News* is worth quoting: "It is my firm conviction that this true American sports car would appeal to a definite cross-section of the American public, and its competition performance will act as a continuous public relations and advertising medium for standard Henry J. Willys (and Kaiser) automobiles." Stevens is talking about his Excalibur J, but his words apply equally well to a competition version of the KW-161. Something akin to sports car performance should be found in . . .

THE NEW WILLYS AERO Eagles and Aces which use a 115-bhp version of the Kaiser engine. Called "Super-Hurricane," it gives these cars the top horsepower-weight ratio in their price



Nash's '54 "Cross Country" features "stepped" roof line with chromed luggage carrier. Guard rail sports tie-down straps

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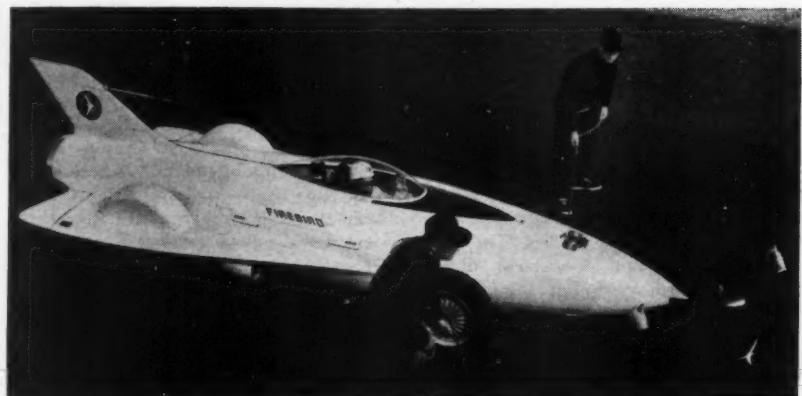
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Spotlight on Detroit

(Continued from page 65)

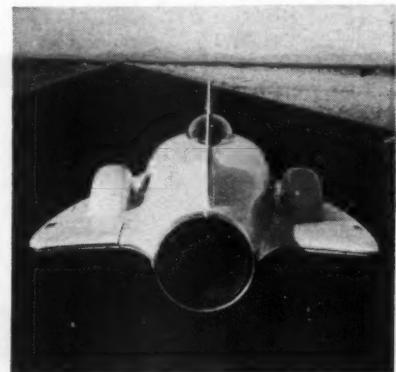


Resembling Navy "Skyray" fighter, GM's "Firebird" gets set for trial run at desert test ground. Three-time "500" winner Mauri Rose pilots turbine-powered futuristic craft

like this is one factor behind the formation of . . .

THE AMERICAN MOTORS CORPORATION

composed of Nash and Hudson. This long-awaited consolidation puts both companies on stronger ground in the fight to keep the independent's slice of the market out of the clutches of the Big Three. Although this is partially a problem of relearning how to sell (a forgotten art in most automobile dealerships since the war), the major cause of independent headaches is the tremendous cost of tooling up for a new engine and/or body style. One new engine introduced this year cost \$60 million! Here lies the real reason for the merger between two companies whose products are at present competitive with each other right down the line. As soon as time permits, Nash and Hudson can use common body shells and pool their talents and finances in exploiting new engine designs which both have had languishing on their drawing boards. Meanwhile, in the middle of the marriage ceremony, Nash has come up with . . .



Wing flaps supplement "Firebird's" wheel brakes. GM designation for car is XP-21



GM Veep Harley J. Earl, left, car's designer, and Mauri Rose get set for test run

THE RAMBLER CROSS COUNTRY, as pretty a four-door station wagon as we've seen. It has the same longer wheelbase (108 inches) as the new four-door sedan, and uses the 90-bhp version of the "Super Flying Scot" engine. Hydra-Matic and overdrive are optional. A feature that makes this car a natural for sportsmen is the reclining seats which convert into twin beds. Excess camping gear (or the season's deer quota) can be put up out of the way on the travel rack which is neatly recessed into the stepped roof line. Other news from Nash is a further postponement of the introduction date (now March 18) for the little and long-awaited new

Metropolitan. It will sell for well under \$2000, get up to 40 miles per gallon at highway speeds, and seat a family with two children. The 40-plus-bhp engine (probably based on Austin's A-40) should push it along at speeds in excess of 70 mph, considering the overall weight of only 1600 pounds. There are over 1000 of them in the country now (they're made in England) await-

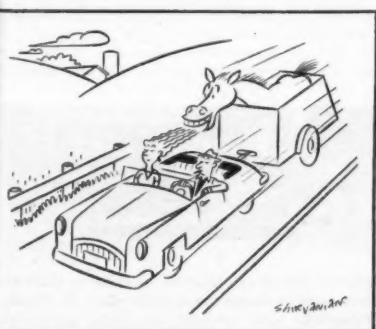
ing shipment to dealers. There's only one, though, of . . .

THE XP-21 FIREBIRD, America's first gas turbine automobile and built by GM. The thing incorporates streamlining ideas applicable to aircraft. The delta wing configuration fortunately has a load factor which keeps the car on the ground. The needle nose and the offset tailfin we hope are styling for its own sake, because even three-time Indianapolis winner Mauri Rose doesn't claim to be expert at instrument landings. (On page 48, he tells you how it feels to drive it.) The car's powerplant is divided into gasifier and power sections. One provides a source of compressed hot gas, and the other transmits the energy of this gas to the rear wheels. Called the Whirlfire, the engine develops the equivalent of 370 bhp. The difference between it and an aircraft jet engine is that here the energy from the gasifier is funneled into the power turbine and in turn transmitted to the rear wheels. A jet aircraft has no power turbine; gases leaving the tail cone provide the thrust. This powerplant provides . . .

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SPECIAL SHOW CARS which has descended on us in the last few days. You'll see them on pages 28 and 29.

—Don MacDonald



March 1954



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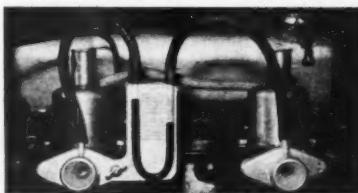


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lent, non-skid tires, etc. \$895. C. Diebold, 72 Mid-
dlesex Rd., Buffalo 16, N. Y.

'36 MODEL 810 CORD phaeton, new Lycoming
engine, transmission mechanically perfect, body
restored and primed, chrome parts 95% rechromed,
business responsibilities prohibit completion, best
offer. B. Salvatore, 905 Mill Plain Rd., Fairfield,
Conn.

'32 AUBURN 12-cylinder four-door sedan, two-
speed axle, wire wheels, 52,000 actual miles, A-1
running condition, engine never opened up, \$800.
C. Glover, 406 E. 6th St., Leadville, Colo.

'36 FORD conv. trunk sedan, '48 Merc mill and
transmission, wonderful body, Buick instruments,
radio, heater, overdrive, new hydraulic brakes, col-
umn shift, best offer, pics and info on request.
G. Leon, Bloomfield, Iowa.

'46 LINCOLN CONTINENTAL conv., beautiful
jet black finish, new white duck top, '51 Mercury
engine, \$2495. R. Kennedy, Rt. 11, St. Paul 7, Minn.
'51 OLDSMOBILE 88 Holiday completely custom,
'53 factory speed and chassis packages, reworked



by Timmerman, D. R. E. dual-quad Strombergs,
236 hp, cost \$7728.44, sell for \$3995. B. Brown, c/o
Wichita Eagle, Wichita, Kan.

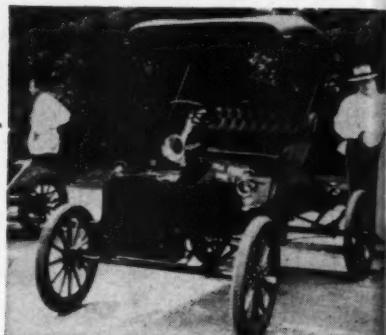
PARTS FOR '37 CORDS; dismantling three com-
plete 810 sedans, what do you need? \$1150. '32
Auburn V-12 engine, knock-off wheels, nine tires,
brakes and rear end, \$150. M. Marzec, 7311 S.
Western, Chicago 36, Ill.

'30 CHEVROLET sports coupe with sidemounts,
rumbleseat, in the best of condition, repainted
original color, one owner, can be driven any-
where, \$500. R. Luedke, New Bremen, Ohio.

'35 DESOTO AIRFLOW, original condition, run-
ning, highest bid will take, complete set of parts,
good tires. A. Noble, 5221 N. 9th St., Omaha, Neb.

'41 CONTINENTAL conv., 12-cylinders, in excel-
lent running condition, make offer. R. Schuler,
3019 Briar Cliff Rd., Birmingham 9, Ala.

'04 FORD MODEL C, two-cylinders, sidecrank,
fine original condition, brass lamps, horn, instruc-

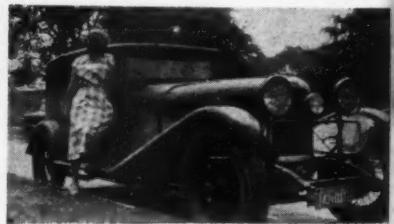


tion book. New top, curtains, upholstery, tires, runs
fine, rare, \$1750. W. Small, 3458 Shenandoah Ave.,
St. Louis, Mo. GR 4449.

V-16 CADILLAC complete with trans-carbs, beau-
tiful nickel fittings, all original, \$150. S. Parnes,
5113 Westminster Ave., Philadelphia 31, Pa.

'33 LASALLE conv. cpe., six wire wheels, almost
completely restored, free pic., \$450. S. Parnes,
5113 Westminster Ave., Philadelphia 31, Pa.

'29 LAGONDA three-liter Weymann saloon in
daily use, good tires, three spare Rudge Whit-



worth wheels, ideal for restoring, spares still
available from England. \$450. A. O'Dell, 731 Niag-
ara St., Windsor, Ont., Canada.

'50 SIMCA sports conv., black Farina body and
top, special grille guards, floor shift, 25,000 miles,
overhauled at 21,000. \$1500. R. Goldich, 6044
Avondale, Chicago, Ill. RO 3-4260.

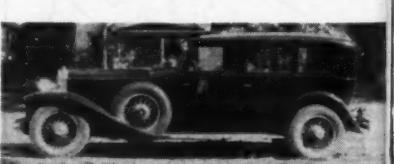
'37, 44-liter BENTLEY conv. cpe., Mulliner body,
very nice condition. P. Shavney, 1415 N. 52nd St.,
Philadelphia 31, Pa. Greenwood 7-7972.

'29 FRANKLIN speedster sport sedan, custom
aluminum, canvas top Dietrich body, original
leather interior, new brakes, shocks, wire wheels,
33,000 miles, drive anywhere, \$1000. J. Ritter, 2712
Manse Ave., Lincoln, Neb.

WILLYS MG; described Oct. *Road and Track*,
many extras including nine wheels, straight pipes,
racing tires, Runyan Fiberglas top. M. Lowe, Box
58, Bonny Doon Rt., Santa Cruz, Calif.

'27 PACKARD phaeton, six-cyl., wire wheels,
passed Va. state inspection and driven daily till
'51; stored since then, located in Bristol, Va., best
cash offer. J. Slus, Jr., Chemistry Bldg., Indiana
Univ., Bloomington, Ind.

'30 ROLLS, Massachusetts Brewster, 30,000 orig-
inal miles, mechanically perfect, no rust, complete



original equipment, interior, chrome as new, new
tires, second owner, best cash offer. R. Hewitt,
Philo, Ill.

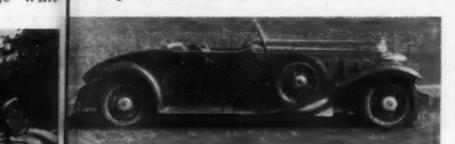
in excel-
Schuler,
a.
sidereck-
n, instru-
37 CORD 812 supercharged phaeton, jet black, red leather, original throughout, 100+ mph, new transmission, mechanically perfect, 25¢ for pics. K. Johnson, 1126 NW 79th, Oklahoma City, Okla.
36 AUBURN SIX conv. cpe., dual ratio two-speed axle, extra engine, rear end and parts, good paint and upholstery, drive anywhere, \$275, make offer. K. Johnson, 1126 NW 79th, Oklahoma City, Okla.

32 HUPMOBILE F222 four-door, clean, has original paint and upholstery, engine in good condition, three very good tires, needs new rear axle shaft and housing, \$100. G. Rust, 2424 Butler Pl., Minneapolis, Minn.

31 MARMON SIXTEEN, 44,000 actual miles, unused for nearly 20 years, good condition, spare



parts available, best offer over \$2000. A. Hickok, 50 St. Paul St., Rochester 1, N. Y.
38 CONTINENTAL conv., '52 Chrysler V-8 installed new by McBar, dark green body, new black top and whitewalls, \$3500. Dr. S. Stealey, Eastern State Hospital, Lexington, Ky.
30 PACKARD SPEEDSTER, model 734, in '53 Indianapolis auto show, same cover the old car



mag by J. Bentley, best offer over \$1900, or swap. L. Morris, Box 32, Lyndon, Ky.

29 ROLLS-ROYCE P-1 conv. sedan, engine just overhauled, body very good, tires very good, needs upholstery, \$1150. J. Garson, 1734 5th St., Berkeley, Calif.

30 PACKARD 726 sedan, a former Can. Lt. Governor's car, well-finished, radio, new radiator, 175, ready to drive away. W. Van Moorhem, 105 5th St., Idaho Falls, Idaho.

31 RILEY 2½-liter 100-hp sedan, 25,000 miles, recent top engine overhaul, perfect black paint and red leather interior, new tires, \$1800 or near offer. D. MacDonald, 26059 German Mill Rd., Franklin, Mich.

17 STANLEY STEAMER five-passenger touring, completely restored, running, excellent, identical



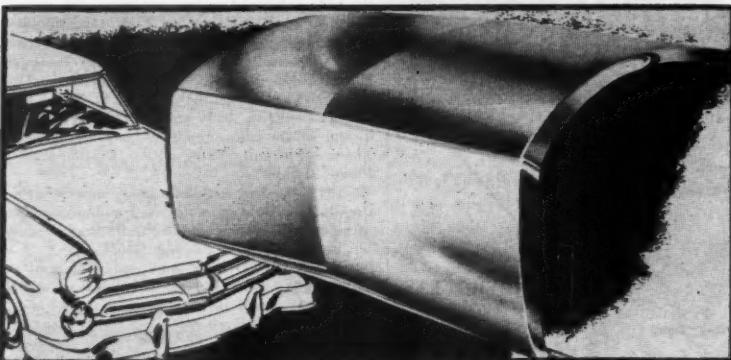
car of Woodbury's "Story of a Stanley Steamer," high offers. S. Ellis, 1615 Beacon St., Waban, Mass.

12 HISPANO-SUIZA racing car, Alfonso XIII model, three-passenger, boat tail, good running condition except 32x4 clincher tires are very poor, photos 50¢, \$2500. A. T. Wohry, 400 N. Kenmore Ave., Los Angeles 4, Calif.

LATE '52 MARK VII Jaguar sedan, blue with grey leather, Lucas headlights, \$2500 cash. Phelan, 1530 Monroe Ave., Memphis, Tenn.

35 FORD phaeton, good engine, good tires, needs canvas for top, chrome plating, painting and upholstering, \$125. T. Stephens Jr., Urbandale Rd., Moberly, Mo.

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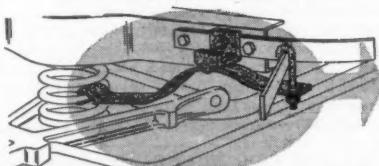
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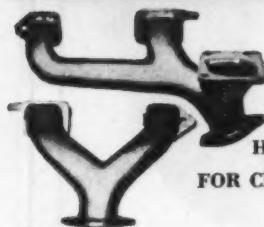
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Speed, mph	41	51	62	72	83
Hp, stock					
system	54	65	73	73	67
Hp, duals	54	67	75	78	74
Hp, headers					
& duals	60	73	80	83	76

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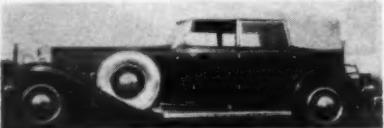
'48 CONTINENTAL, featured Sept. '53 MT, '52 Cadillac engine, Orlon de Ville top, upholstering, carpeting, paint, body all restored or replaced, cost \$7000, sell \$3600 or best offer. I. Metzenbaum, 12436 Saywell Ave., Cleveland 8, Ohio.

'48 CONTINENTAL hardtop, light blue, radio, heater, overdrive, body and chrome excellent condition, 40,000 miles, new tires, sacrifice, \$1595. R. Fisher, Pleasant Valley Rd., Brattleboro, Vt.

Phone 211-M3.

'36 CORD sedan, excellent body, new paint job, brand new hub caps, good running condition, sacrifice \$650. P. Easian, 23 Saddle Rock Rd., Valley Stream, L. I., N. Y. VA 5-4686.

'32 PACKARD twin-six conv. sedan in mint condition, body by Dietrich, will sell or swap for



antique or steamer. M. Racicot, 122 Fremont St., Rehoboth, Mass.

BELOND EQUA-FLOW headers and pipes for '49-'50 Olds 88, new, \$25; slightly used Mallory distributor, '49-'51 Olds, \$15; Octa-gane injector, \$8. D. Jensen, 515 Oak St., Algona, Iowa.

MODEL T PARTS: including new chromed hub caps, brass manifold nuts, cast iron brake shoes, lots other new and used parts, send for free mimeographed listing. E. Hemmings, 1036 Hampshire St., Quincy, Ill.

FIBERGLAS custom sports; '39 Ford made up of all new parts; cash or closed car, all letters an-

tal spare, visor, undercoated, cost \$4000, sell for \$1750. H. Delaloye, 814 Lakeside South, Seattle 44, Wash.

'51 TALBOT LAGO grand sport 190-hp, 4½-liter, Wilson gearbox, new chrome wire wheels and white tires, streamlined two-three place coupe by Figoni and Falaschi, cost \$15,000, sell for \$5150. V. Corradini, 445 60th St., West New York, N. Y.

'41 BANTAM four-passenger conv. with V-8 60

conversion, new plastic interior, good shape, would



consider trade or cash. R. Olds, 1603 N. G. I. Ave., Grand Island, Neb.

'38 MAYBACH ZEPPELIN five-place sedan, 8-liter engine, 8 speeds forward, new condition, only 15,000 miles, cost \$30,000, sell for \$3850. V. Corradini, 445 60th St., West New York, N. Y.

MALLORY DISTRIBUTOR, used, model ZB, Type 247AX for late '51 Ford V-8, \$15 or best offer. T. Kukman, 35 Pond St., Worcester, Mass.

'33 LINCOLN V-12, dual cowl phaeton, in concours condition throughout, new top, paint, etc.,



mechanically perfect, \$1500 or best offer. R. Teague, No. Broadway, Nyack, N. Y.

'53 NASH-HEALEY coupe, 300 miles, black body, red top, original throughout, top speed 140 mph, must sell on account of illness, best offer over \$4000. A. Frye, Box 271, Griffin, Ga.

FIVE '52 DESOTO V-8 engines, two guaranteed in perfect condition, three damaged by loss of oil, will sell one or all. W. Bosworth, 24 Grand Blvd., Scarsdale, N. Y.

'37 PACKARD V-12 conv., completely rebuilt and original, new paint, leather, engine overhaul and



mechanically perfect, \$1500 or best offer. C. Dickey, 1936 Sharon Ave., Indianapolis, Ind.

'48 CONTINENTAL hardtop, new V-12, clutch, brakes, Goodyear whitewalls three months ago, Solex windshield, superb condition and appearance, unable to trade, \$2600. Dr. J. Pember, 508 W. Milwaukee St., Janesville, Wis.

'49 CUSTOM CHEVROLET business coupe; Olds bumper and grille, complete '53 Cad rear end, custom pleated interior, padded dash, best offer



solid tires, only \$750 or will swap for antique sports car. P. Hampton, 1101 Crescent Ave., Independence, Mo.

'50 FORD conv.; radio, heater, overdrive, tonneau cover, tachometer, Edelbrock equipped, H & C cam, Belond headers, dual carbs, Johnson adjustable tappets, Lincoln valve springs, \$1150. Pvt. D. Elder, 809 Ridge Rd., Rochester 21, N. Y.

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AUBURN 851 custom sedan being wrecked; fenders, doors, hood, disassembled engine, new rods, mains, pistons, crank, two-speed Columbia transmission, write for details, price. S. Bradley, 13722 45th Ave. So., Seattle 88, Wash.
'48 MG-TC; new white paint job, red interior and wheels, black top, tire cover, tonneau, engine recently reworked, good tires, excellent condition



throughout, \$1200. P. Baldwin, 5959 Hollywood Blvd., Los Angeles 28, Calif. HOLLYWOOD 2-3261— evenings VErmont 9-5495.

'53 MARK VII Jaguar; fully equipped, 9000 miles, no trade, \$2995. J. Glasgow, 2071 W. Mt. Morris Rd., Mt. Morris, Mich. Phone 5123.

B BLOCK OHC conversion, C crank, pressure tube, chrome sleeves, 200 plus horses on alky, for street or track, \$200 FOB Cincinnati. R. Nye, 3261 W. Galbraith Rd., Cincinnati 24, Ohio.

'40 BUICK SPECIAL four-door conv. sedan, 41,000 miles, showroom condition, original throughout except new whitewalls, original green paint, side-mounts, never hit, \$500. C. Heller, 243 Steinwehr Ave., Gettysburg, Pa. Phone 672.

'42 CONTINENTAL hardtop, Rio red lacquer, 52,000 miles, '50 Lincoln V-8 engine, radio, two heaters, good body, nearest offer to \$1500. D. Reynolds, 113 N. 78th St., Birmingham, Ala.

'52 FORD Ranch Wagon; Olds 88, Hydra-Matic, late heads by Edmunds, clocked 100 mph at Bon-

nevile, 60 in 19 seconds, power brakes, shortwave



receiver, a sportsman's dream, best offer over \$2800. B. Southworth, 5100 Woodley, Encino, Calif. STate 9-6223.

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STEAM CAR; prefer Stanley, Doble, or White in working or restorable condition, mail complete particulars, price. B. Acker, 320 Park St., St. Petersburg, Fla.

'29 AUBURN Six conv. coupe or roadster, must be in good to restorable condition, send photo, info and lowest cash price first letter. A. Lintz, 5620 35th Ave. So., Seattle 8, Wash.

CONNECTING ROD and pistons for '24 Rollin, please state price and condition in first letter. J. Wilson, 207 S. Prairie St., Knoxville, III.

MODEL J DUESENBERG conv. sedan or coupe within few hundred miles of Okla. State price and describe accurately, must be original and top shape. E. Price, 1506 Guilford Lane, Oklahoma City 14, Okla.

PARTS, MANUAL FOR '30 STUTZ conv.; steering wheel, horn button assembly, speedometer cable and housing, instrument panel frame, hub caps, Lady Spendifx. D. Miller, 3572 W. 67th St., Cleveland 2, Ohio.

AUTOMOBILE ADVERTISING catalogs; also show annuals, 1900-42, outright cash for everything. Describe and quote price. L. Mayer, Munith, Mich.

SJ or J DUESENBERG; sport body preferred, anything considered; photo, price and all details required. J. Karle, 806 S. 9th St., St. Joseph, Mo.

CUSTOM CLASSIC: '29-35, foreign and domestic, limousine or comparable massive all-weather jobs. Photos, specifications or histories, particulars, etc., solicited, no returns. Also want tires, etc. Van-Clesco Foundation, P. O. 1323, Little Rock, Ark. AUBURN V-12 ENGINE, transmission, driveshaft and two-speed rear end, interested secondarily in straight eight engine or '32 parts car containing items, state price. Major W. Pelton, 6-5 Weather Det., Kelly AFB, Tex.

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'37 CORD Supercharged phaeton, rechromed, new top, joints, good engine, beautiful 17-coat powder blue lacquer paint, new whitewalls, price 10¢, \$1700 or swap. J. Vogeler, 205 E. 78th St., New York 21, N. Y.

RACING ENGINE; fully equipped new \$500 Chevrolet in '39 sedan. What have you? Drive it anywhere. J. Graf, 490 11th Ave., Paterson, N.J.

'36 AUBURN Eight sport coupe, completely rebuilt at cost of \$1400. Want late Cadillac. H. Deuter, 336 W. Washington, Ft. Wayne, Ind.

'41 CONTINENTAL conv.; body in good condition, tires good, engine fair, drive anywhere, first \$695 takes it, consider trade. O. Polson, 321 W. 8th St., Muncie, Ind. Phone 3-7067 or 2-4394.

'37 CHRYSLER ROYAL six coupe; original black lacquer, radio, heater, whitewalls, spent about \$250 on it. \$150 or swap for clear roadster or phaeton. P. Terhorst, 2980 Bailey Ave., Buffalo 15, N. Y.

'39 CITROEN conv. coupe, green, custom body, 2000 cc blown Alfa Romeo engine, excellent condition, \$2500, will take part trade. W. Binney, 509 Magnolia, Brea, Calif.

MILLER FRONT DRIVE SPECIAL converted to sports car, aluminum body, modified Ford engine, top speed 150 mph, 90 per cent completed, make offer, cash or swap. J. Queen, 4th and High Sts., Hamilton, Ohio.

'38 AMERICAN BANTAM and extra parts for Harley or Indian motorcycle. R. Gray, Church St., Big Run, Jeff Co., Pa.

ALLISON ENGINE, new, complete, V-12 water cooled, 1200 hp s/c, suitable large car or fast boat, swap for any car, prefer Stutz. E. Pfannebecker, Latham, N. Y.

'22 LAFAYETTE seven-passenger phaeton: Mars Hill, Ind. product, original condition, instruction and maintenance manual, runs good, a rare old time \$5000 car. O. Collins, 4448 Sunray Rd., Dayton, Ohio.

CORD; stored five years, converted rear wheel drive, easily made original, needs paint, original upholstery, drive it away, swap for classic or sacrifice \$350 cash. B. Hellie, 4025 Claxton Rd., Salem, Ore.

'38 PACKARD V-12 limousine, very clean inside, outside easily restored, good tires, and mechanically okay, \$250 or best offer, or swap for roadster. S. Zoyes, 25427 Peter Kaltz, Centerline, Mich. SL 7-0102.

'51 HILLMAN-MINX; 19,000 miles, new condition throughout, want larger car. \$800 or swap for station wagon of equal value. Dr. G. Oates, 1195 McFaddin, Beaumont, Tex.

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'49 CADILLAC 62 sedanette, original black, excellent condition, Hydra-Matic, for XK-120 Jaguar, coupe preferred but not necessary. J. Riley, 3121 S. Cherry Ave., Fresno, Calif. Phone 2-2041.

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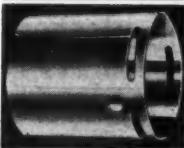
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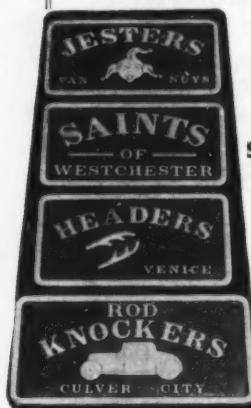
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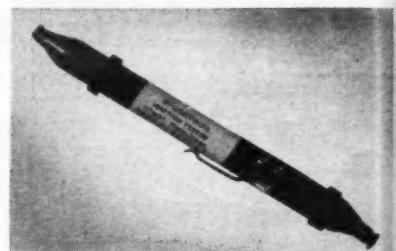
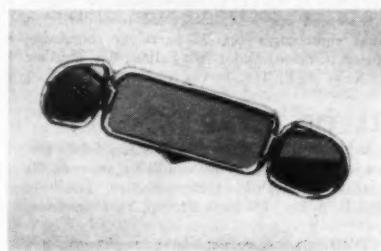
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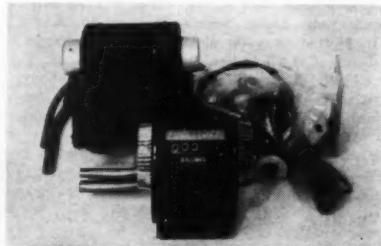
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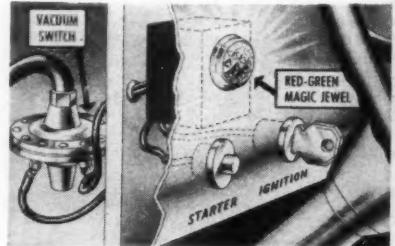
TRENDS IN PRODUCTS



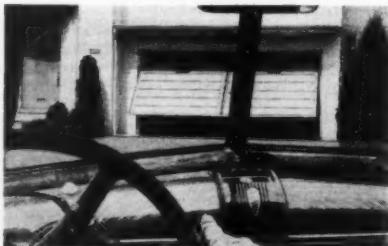
DESCRIBED as a revolutionary idea in motoring safety and as the first interior car mirror to completely eliminate blind spots, the Look-Out mirror consists of two hinged wing mirrors which are attached to your interior rear-view mirror. Each section has full 180-degree adjustment for maximum wide-angle viewing. It can be installed in seconds, without tools. Price, \$2.95. Lifetime Auto Accessories Corp., New York 60, N.Y.



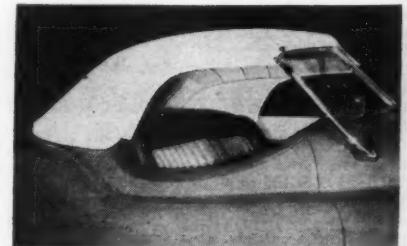
CONTINUALLY measuring and recording the amount of gasoline being used by your car, this electrically operated fuel flowmeter is accurate to 1/100 of a gallon. The meter is installed on the engine, and the chrome-and-enamel counter is mounted on the dashboard or steering column. Guaranteed to be accurate within two per cent, it reads up to 1000 gallons. Write: McCulloch Motors Corp., 6107 W. Century Blvd., Los Angeles 45, Calif.



GYRO START-CONTROL provides automatic starter operation plus a visual indication of engine efficiency. A vacuum-operated switch activates a red light when loss of vacuum indicates poor efficiency; under normal operation it glows green. If the engine stalls, the unit automatically energizes the starter, but only when the transmission is in neutral. Price is \$12.95 from Gyro Control Co., Inc., 9244 W. Olympic Blvd., Beverly Hills, Calif.



THE SCIENTIFIC Garage Door Operator is designed for those who want the finest in modern conveniences. A small transmitter under the hood of your car allows you to open or shut your garage door, turn on floodlights, etc., at the touch of a button on your dashboard. A 12-month guarantee covers the silent, gearless, chainless, greaseless opening mechanism. Fits all doors. Scientific Products Inc., 3341 E. Jefferson Ave., Detroit 7, Mich.

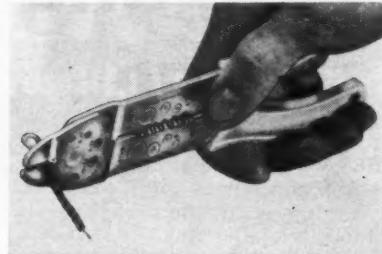


TIRED OF SEEING too many Jags like your own? Is your old top tattered, cracked, and worn? Then here's your chance to add distinction, beauty, and a hardy, practical "lid" to your XK-120 Jaguar. This removable top is available in sport cloth or plastic in various colors. The Carson Top, designed to beautify and protect your Jaguar, is priced at \$250, plus tax. Carson Top Shop, 4910 S. Vermont Ave., Los Angeles 37, Calif. Dealer inquiries are invited.

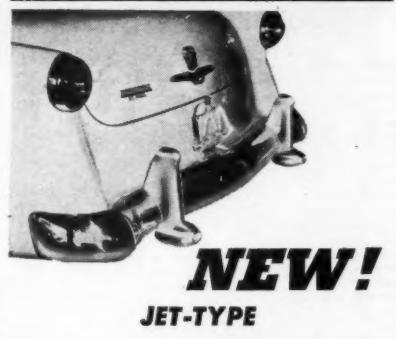
This department is not composed of paid advertising. All items are guaranteed by the manufacturer for immediate refund if you are not satisfied. Claims made herein are those of the manufacturer, and do not constitute an endorsement by Motor Trend. When ordering, include sales tax if required by your state.



IF YOU USE your windshield washer in cold weather, you're apt to get a sheet of ice on your windshield. Vizo, a liquid that permits you to use the washer jets in freezing weather, eliminates this common hazard. Packaged in a convenient "one-shot" plastic bag, Vizo is poured directly into the washer bottle. Vizo is distributed through Automotive Solvent & Specialties, Inc., 22700 Harper Ave., St. Clair Shores, Mich.



RIGHT IN STEP with the trend toward more "do-it-yourself" projects, this electrician's tool enables anyone to do a professional-type job of making electrical connections. It crimps solderless terminals, splices, cuts, and strips wire, and it shears bolts cleanly. Includes a kit of terminals, connectors and insulators. Price, \$3.95, postpaid. Aircraft Marine Products Inc., 1329-AD, American Building, Cincinnati 2, Ohio.



NEW! **JET-TYPE** **Exhaust & Bumper Guard Combined!**

- Not an attachment. Completely replaces old style bumper guards . . .
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FORDS \$16.95 complete pair
CHEVS \$16.95 postpaid, imm. delivery

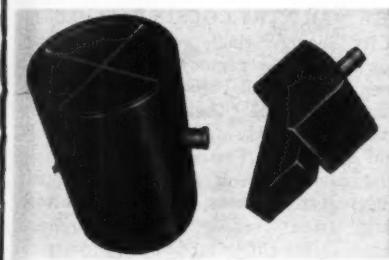
BRIGGS Box 697
Cedar Rapids, Iowa
Dealer inquiries invited



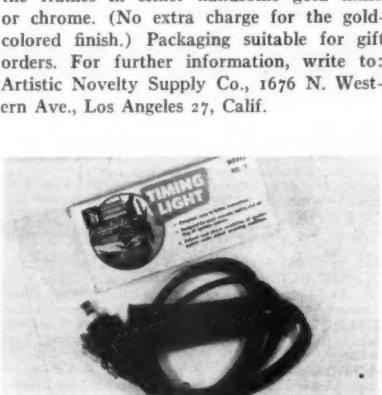
ONCE MADE only on special order for \$40 per set, these Custom-Bilt license plate frames are now offered at a cost of only \$10 a set. The one-piece solid frame can be installed quickly and easily. You can order the frames in either handsome gold finish or chrome. (No extra charge for the gold-colored finish.) Packaging suitable for gift orders. For further information, write to: Artistic Novelty Supply Co., 1676 N. Western Ave., Los Angeles 27, Calif.



BRILLIANT chrome plating gives the desired custom appearance to this deluxe radiator hose kit for Fords and Mercurys. Replacing the original rubber hose, the kit's steel tubing helps the engine attain peak efficiency by allowing maximum water coolant passage. The hose kit consists of two chromed tubes, eight chrome-plated clamps, and four sections of three-ply fabric hose. Williams and Bennett Co., 2900 Alameda St., Compton, Calif.



NEW FUEL TANKS, tested for maximum performance, are available in one- to 50-gallon capacities. Crenlo tanks are all-welded, and provided in cold-rolled steel or terne plate. Tanks 10- to 16-gauge are arc-welded; resistance-type welding is used on larger tanks. The tanks shown above are just a hint at the variety of sizes and shapes available. Mention MOTOR TREND when writing for prices and data. Dept. KP, Crenlo, Inc., Rochester, Minn.



A NEW TIMING LIGHT, designed for quick, accurate testing of ignition systems, is engineered for the maximum in light output to insure sharper images. Employing the stroboscopic principle of light synchronized with motion, the timing light enables the user to adjust the ignition timing and determine condition of the ignition system under actual operating conditions. Price, \$4.95 FOB Compton. Zip Auto Supply, 2011 N. Long Beach Blvd., Compton, Calif.

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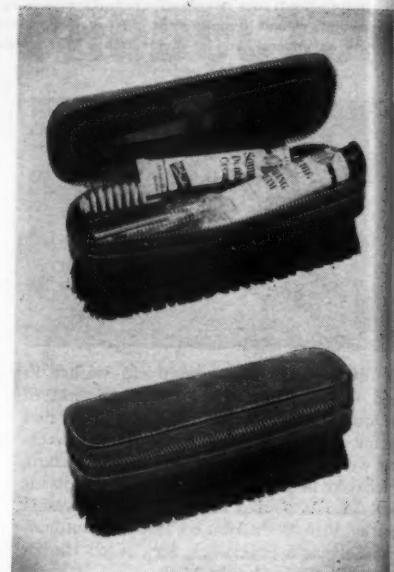
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WHEN WE SAY that this item belongs in the glove compartment, don't think that we have our departments mixed up! It rightfully belongs in Rambling Rags as a showplace, but it belongs in the traveling man's glove compartment, where he can take advantage of a clothes brush with a built-in overnight toilet article accessory kit. Made of top-grain leather, the kit contains a comb, nail file, tooth brush and paste, a razor and shaving cream. \$4.95.

COURTESY THE SPORHAUS, WESTWOOD VILLAGE, CALIF.



THE "COUNTRY COUSIN," left, and the "City Slicker," right, are ready for hoe-down or hockey game. When the heavens open up and hail breaks loose, you'll be thankful for the "Thermostag" lining insulating the body and sleeves from cold and dampness. Two of the White Stag Manufacturing Company's most popular fingertip-length coats, both feature chrome clasp front closings and brass-riveted storm slicker clips. Good "open car" items, both styles are fully water-repellent. In sizes 10 to 20, the "City Slicker" is priced at \$19.95; its "Country Cousin" is \$24.95.

COURTESY THE SPORHAUS, WESTWOOD VILLAGE, CALIF.

tips for trips calendar

ARIZONA

Through Feb. 22—Tucson, Horseless Carriage Club Motorama Exhibit

Feb. 26-28—Phoenix, Indian Ceremonies

Mar. 7—Phoenix, Western Saddle Club Gymkhana

Mar. 7—Wickenburg, Desert Sun Ranchers Rodeo

CALIFORNIA

Through Feb. 14—San Francisco, San Francisco Auto Show

Mar. 6-14—Los Angeles, GM Motorama Auto Show

CONNECTICUT

Feb. 17-21—Hartford, Fourth Annual National Auto-rama Auto Show

DISTRICT OF COLUMBIA

Feb. 20-28—Washington, D.C., Washington Auto Show

FLORIDA

Through Feb. 14—Miami, GM Motorama Auto Show

Feb. 14-21—Daytona Beach, Annual NASCAR Speed Week

Feb. 21—Daytona Beach, 160-mile stock car race

Mar. 7—Sebring, Florida International 12-Hour Grand Prix of Endurance (Sports cars)

ILLINOIS

Mar. 13-21—Chicago, Chicago Auto Show

INDIANA

Through Feb. 21—Indianapolis, Indianapolis Auto Show

LOUISIANA

Feb. 26-Mar. 2—New Orleans, Mardi Gras Events

Mar. 21-29—New Orleans, Louisiana Auto Dealers Auto Show

MICHIGAN

Feb. 18-21—Ishpeming, National Ski Championships

Feb. 20-28—Detroit, 41st Detroit Auto Dealers Association Auto Show

Mar. 2-4—Detroit, Society of Automotive Engineers Meeting

MISSISSIPPI

Feb. 27-Mar. 31—Natchez, Natchez Pilgrimage (open house, pageants, etc.)

Mar. 1-31—Vicksburg, Showboat Time

Mar. 2—Biloxi, Mardi Gras

NEW YORK

Through Feb. 13—Buffalo, Buffalo Auto Show

Through Feb. 13—Elmira, Elmira Auto Show

Through Feb. 14—New York City, Third Annual International Motor Sports Show

Mar. 13-20—Rochester, Rochester Auto Show

NORTH CAROLINA

Feb. 14—Nags Head, Valentine Season Fox Hunt-in Jeeps

Mar. 7-21—Pinehurst, Harness Horse Racing

PENNSYLVANIA

Feb. 20-27—Pittsburgh, Pittsburgh Auto Show

Mar. 5-13—Philadelphia, Philadelphia Motorboat and Sportsmen's Show

SOUTH CAROLINA

Last week in Feb.—Aiken, Annual Tri-State Pro-Amateur Golf Tournament

Through April—Aiken, Polo games

TEXAS

Feb. 18-21—San Antonio, Texas Open Golf Championship

WASHINGTON

Mar. 4-7—Seattle, 1954 Pacific Automotive Show

WISCONSIN

Through Feb. 13—Milwaukee, Milwaukee Auto Show

WYOMING

Mar. 6-7—Jackson, Intermountain Ski Association Junior Championship Meet

"TECHNICAL EDITOR"

gives UNBIASED REPORT

ON LIFE-LONG BATTERY

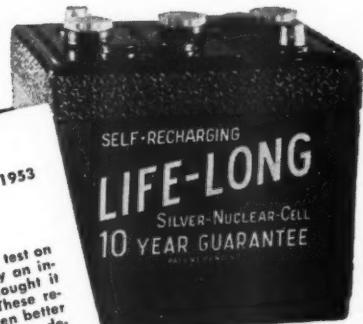


LIFE-LONG BATTERY MFG. CORP.
11766 West Pico
Los Angeles, Calif.
Nov. 23, 1953

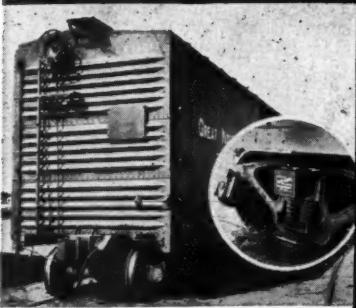
Gentlemen:
After having read the reports of the test on the LIFE-LONG BATTERY, conducted by an independent testing laboratory, we thought it would be wise to test it ourselves. These results, as you already know, were even better than the ones submitted to us. We then decided to hire the services of the Triplett-Barton testing laboratories to verify our results . . . these results again verified everything you have ever said about your BATTERY. We are sending you a certified and notarized copy of the tests. In our opinion you have an excellent BATTERY and with normal care should last your guarantee with a period of ten years. The recuperative characteristics of the LIFE LONG BATTERY are amazing.

Sincerely,

Don Werner
Technical Editor of MOTOR LIFE
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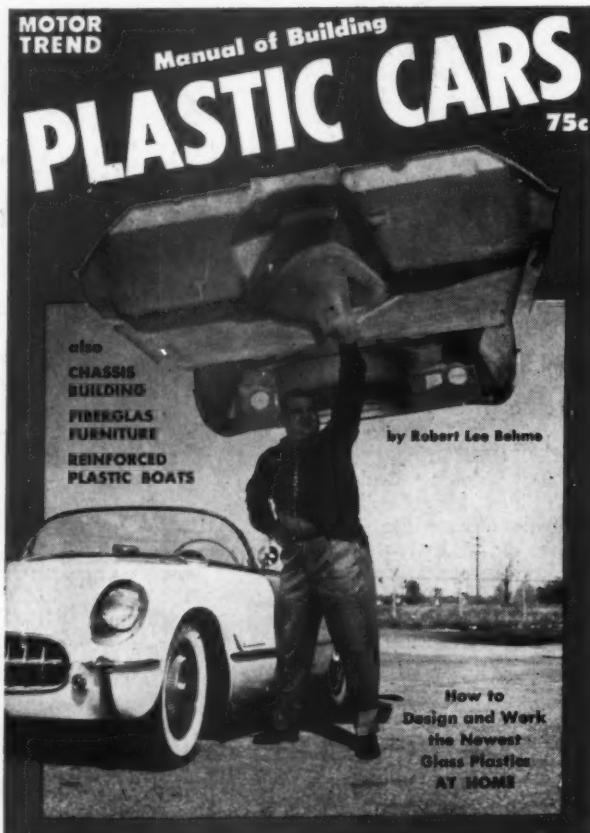
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